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Gynecology

Office Gynecology*

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There is certainly nothing original in the title of these remarks, but I do believe that the subject "Office Gynecology" serves at least one useful purpose. It emphasizes the fact that approximately 90 per cent of our gynecologic patients are **not surgical**. Since that is true, it seemed rather important to me to pay close attention to the complaints which one is likely to encounter in dealing with a group of gynecologic patients, whether one's practice is a general or a specialized one.

Obviously, those complaints might be legion and one could wander far afield in trying to discuss them. I am, therefore, going to limit my discussion to six topics, after first telling you that this list was compiled for me by an office nurse I had in 1948 when I asked her to list, in the order of their frequency, the six most common complaints among the gynecologic patients who came to me. Please remember that this is

a woman's list and was prepared by a woman who was dealing with women daily in a private gynecologic practice; but it has been very interesting to me to note, in subsequent reviews of his subject, that neither the six topics nor the order of their frequency have changed appreciably in my own practice. I would be very much interested to know what kind of list your nurses would compile if the same problem was put to them. I have an idea that it would be quite similar to the one I am going to discuss with you.

Here is the list:

1. Headache—fatigue
2. Backache
4. Bleeding
3. Dysmenorrhea
5. Symptoms of prolapse
6. Pruritus and/or leucorrhcea

I have thought at times that (3) and (6) might exchange places, but that is of minor importance.

Headache-fatigue

When I asked my nurse why she combined headache and fatigue into one heading she stopped me, cold, when she replied, "Doctor, haven't you noticed that almost all of our patients with headache are tired?"

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(1) The Postpartum Cervix by John H. Moore, M.D., and Frank A. Hill, M.D.; The Journal of the American Medical Association, Vol. 150, pp. 1187 and 1188.

This symptom-complex is found chiefly in three classes of gynecologic patients. It is obvious that I am excluding acute infections and purely medical problems from primary consideration, even though one or several of them may, ultimately, be involved. That limits the discussion to the following:

(a) Girls from 13 to 19 years of age

The chief characteristics of this group are that they awaken tired, gulp a hasty breakfast, lunch on soft drinks, and, occasionally, eat one fairly good meal a day. Their headaches are not acute but are likely to occur in mid-morning and mid-afternoon. Their headaches are not particularly related to or aggravated by menstruation. Their physical pattern varies all the way from the flat-chested, boyish-like girl to those who possess all of the esthetic rotundity of the mature female. If one has patience enough and pursues his investigation far enough, he usually finds that the majority of this group have some nutritional disorder and a moderate to severe secondary anemia. They are accused of being "boy-crazy," indolent, or erratic; and it is often said of them that they are the product of this cockeyed, neurotic age in which we live. Be that as it may, what most of them need is rest and regularity—and youth rebels at both—and proper nutrition. In the absence of definite gynecologic or other pathology, most of them respond to mild sedation, hematinic therapy, and a balanced diet, with or without vitamin therapy.

But be careful! Within one year we found, in this small subdivision whose chief complaints were headache and fatigue, two cases of diabetes mellitus, one case of early nephrosis, and two cases of myxedema.

(b) Nurses, school teachers and telephone operators

This group of hard working women complain of headache and fatigue almost as though it was an occupational hazard and, in many instances, it is. They awaken quite refreshed, go to the ward, the classroom, or the switchboard without complaint but by mid-afternoon their troubles begin. Physicians, patients, pupils, and the talking public exact their toll. A number of these patients develop dysmenorrhea and to the headache and fatigue, in cyclic manner, the pelvic complaints are added.

All three groups recover during a vacation. My school teacher patients are especially interesting. They start well in September, get a few headaches by Christmas but improve somewhat during the Holiday Season, only to have

a progressive increase of headache and fatigue until June.

These patients occupy such important places in our social order that the fatigue factor is being recognized by our profession, by hospitals, and by industry. It is time that our educational system also recognized it.

Headache and fatigue, plus considerable irritability, frequently are found in a number of patients who are classed as having "premenstrual tension." These patients are often in their late twenties or early thirties and have regular menstrual cycles. Dysmenorrhea is not often present. From a day or two to a week before menstruation they become tense, irritable, easily fatigued, and they suffer from varying degrees of headache. The headache usually lessens with the onset of menses and is gone by the first or second day of the period. If you examine these patients in this premenstrual period you will often find an elevation of blood pressure. Socalled "canker sores" are frequent in them. Some have attributed this premenstrual tension to hormone imbalance. I don't know the cause of it. I am sometimes able to relieve it by mild, oral estrogenic therapy given in the week preceding menstruation; in other cases, the luteinizing hormone seems to give results and, in still others, mild sedation is effective. But I have lived long enough to have followed the symptomatology of some of these women into the menopause and, as a class, they are the ones who suffer most acutely from headaches and fatigue at that time. Furthermore, they frequently develop considerable hypertension and their vasomotor symptoms as evidenced by hot flushes or chilly sensations are likely to be severe. The degenerative diseases, the hypertensive hearts, and diseases of metabolism are greatest in this group of women, and we must not brush off their complaints as merely due to "the change of life!" I am quite sure that if we, men, had passed through the years of cyclic inconvenience that characterize the female between menarche and the menopause and if we had borne a number of children during those sexually mature years, or had suffered frustration because we could not do so, we would appreciate more than a look of disgust and an aspirin tablet when gonadal activity began to decline or, at least, to act in a manner unpredictable to the masculine mind. Next to his presence in the delivery room, here is the place where the woman most appreciates the thoughtful and thorough consideration of her physician. My plan of action with these women is as follows:

- (1) A careful history, including a detailed obstetric and gynecologic history, is taken.
- (2) A complete physical examination and a detailed study of the generative tract by bimanual and speculum examination is made. If the patient will not submit to this, I do not treat her.

(3) Urinalysis, routine blood counts, sedimentation rate, and serologic examination are done as minimum laboratory procedures. The Pap smear and colposcopy test is not used routinely but is frequently when various abnormalities indicate that it might prove helpful.

If no abnormal uterine bleeding is found and the uterus and cervix do not appear to require curettage and biopsy, I begin a course of parenteral estrogenic therapy and mild, oral sedation and note the response. One reason why I prefer parenteral estrogenic therapy is that one can frequently note the response to therapy; another reason is that the patient appreciates the personal interest shown in her problem; and, finally, if my treatment produces bleeding, I want the first doctor to know about it!

2. Backache

Backache, in my experience, is not often definitely of gynecologic origin. It is far more likely to require orthopedic than gynecologic treatment. There are many ovariotomies, uterine fixations (some are still doing them!) uterine suspensions, and even hysterectomies have been done to relieve it? Their number is as the sands of the sea!

I have found only a few gynecologic causes for backache. These deserve some consideration.

(a) Retroversion and/or retroflexion of the uterus

In our Clinic we speak of "retroversion" and "retroversion with symptoms." It is probably safe to say that about one-third of all gynecologic patients examined have some degree of retroversion but that in the majority of them in whom retroversion is found, and certainly in the nulliparous woman, the retroversion is responsible for the backache. When the retroversion is etiologic one will usually find the following sequence of events: (1) Low back pain beginning one week to a few days before menstruation, becoming progressively worse, reaching its acme at the onset of menstruation. (2) Premenstrual cramping, sometimes requiring bed rest and sedation, begins a day or a few hours before the flow is established and usually disappears during the first day of menstruation. (3) The patient is usually free from backache due to retroversion in the post-menstrual and mid-menstrual periods.

I apply a therapeutic test to patients who have backache and retroversion. With the bladder empty—and this is a "must" in all gynecologic examinations—and the patient in lithotomy position, the uterus is replaced in anterior position and a comfortably fitting Smith or Smith-Hodgson pessary is fitted. The nurse then has the patient sit, squat, and strain. There must be no discomfort during any of these maneuvers or the pessary is not of the proper size or other pathology is present. After a suitable fitting has been obtained, the patient is asked to wear the pessary for from four to six weeks, through a menstrual

period, and to note whether or not her backache is relieved. If it is, the pessary is removed, cleansed and refitted, and the patient reports again in four to six weeks. After the second session the pessary is removed, the patient is instructed in how to take the knee-chest position, and she is asked to take that position for five minutes, morning and evening. No mention is made of backache after the removal of the pessary, unless the patient broaches the subject. If the backache was due to the retroversion and the patient returns, complaining of it and asking for another pessary fitting, you probably have a patient who will be relieved by a properly performed uterine suspension.

(b) Endometriosis

Endometriosis is a common gynecologic condition and one whose symptomatology is often bizarre and confusing. I mention it in connection with the discussion of backache to emphasize that in those patients who have endometriosis involving the rectovaginal septum and/or the uterosacral ligaments, the backache is likely to become aggravated, even if a properly fitting pessary is used for the relief of the commonly-associated retroversion. The backache in a full-blown case of pelvic endometriosis, especially when on rectovaginal examination one palpates the shotty, tender nodules in the rectovaginal septum, is a distressing complaint. While a patient so afflicted is rarely entirely free from backache it reaches its maximum, as would be expected from the nature of the pathology, at the time of menstruation.

For treatment some have advocated the production of temporary amenorrhea by means of external radiation therapy to the ovaries, some have advised presacral neurectomy, and others antagonistic hormone therapy. In my own practice, my chief reliance is upon codeine, with or without salicylates, for temporary relief.

It has now become apparent that my attempt to attribute symptoms to one assignable cause is, at best, inaccurate. So it must remain when I list the next and last gynecologic cause of backache.

(c) The cervix uteri

The cervix uteri has been called "the tonsil of the pelvis." Like the faucial tonsil, it becomes infected; but unlike the faucial tonsil, it also has the trauma, incident to childbearing, to contend with. It has seemed to me that backache of cervical origin is chiefly found in those patients who have suffered cervical lacerations without having had adequate repair and upon which an erosion develops, with or without cervicitis.⁽¹⁾ We have now seen enough of these backaches to believe that cervical lacerations and erosions are frequently etiologic. The therapeutic test is simple, but the routine which should be followed before applying it is important. Where the cervix is

suspected as the cause of the patient's backache, and you can't tell this unless you feel the cervix and inspect it under a good light, we proceed as follows:

(1) Take a hemoglobin and/or a hematocrit test, erythrocyte and leucocyte counts, and determine the sedimentation rate. Of these, the sedimentation rate is the most important. If the sedimentation rate is above 20 m. in one hour (Westergren) or if the patient is within five days of a menstrual period, either way, withhold active treatment to the cervix.

(2) If the above conditions are right and the cervix shows lacerations and/or erosion, cauterize it with the nasal tip cautery. Do not be afraid of getting some charring, except that one tries to avoid it about the external os; and at the conclusion of the cauterization, instill Triple Sulfa Cream (Ortho) into the vagina and against the cervix. We request the patient to stay off her feet as much as possible for the week following cauterization, although bed rest is not insisted upon. Under no circumstances is the patient to take a douche or to indulge in sexual intercourse. The ban on sexual intercourse extends for four weeks. The ban on douches, except for specific indications—and these are extremely rare—is for life!

(3) Six weeks after cauterization, we ask the patient to return for reexamination of the cervix. In a pleasing number of cases, we are told that her backache has been relieved. As one's experience increases with the cautery treatment to the cervix, he finds fewer times when it is necessary to recauterize. Occasionally one will find an area where slight additional treatment is indicated, either the actual cautery or treatment with 10 per cent solution of silver nitrate. I have not had any trouble with stenosis of the cervix following cauterization, although that complication must always be kept in mind. It would be most likely to occur if the cautery extended near or into the internal os.

3. Dysmenorrhea

How I wish that this symptom was not on my list! But it is Number 3 on our Gynecologic Hit Parade and it must have attention. Let us start with the time-honored "congenital" and "acquired" types.

(a) Congenital dysmenorrhea

Obviously the name itself is a misnomer and the grouping of patients into this category is often inaccurate. Nevertheless, we find the condition usually present in the young woman who began to have her menstrual periods at an average age for the north temperate zone of from 12 to 14 years, who established a cycle which approximated 28 days and the duration of whose flow was four to six days. For a few months to a few years she got along with a minimum of discomfort or none. Then

things began to happen. About the time she got to be a junior or senior in high school or took her first job, the symptoms appeared. I have not found as much of this type of dysmenorrhea in girls who began their menarche at 16 years or beyond, popular opinion to the contrary. The complaint, in my experience, is very definitely on the increase. I attribute this somewhat to the quickened pace, the emotional instability, and the confusion under which all of us live. These youngsters get started all right, but the pace gets tougher and then comes the dysmenorrhea. It is aggravated about the time of the Junior Prom when someone else gets the "hoped-for-date", and it is definitely worse at those times in our archaic educational system known as "final exams".

Among the co-eds congenital dysmenorrhea almost invariably gets worse as the college year progresses from September to June; and it appears to reach its maximum during the time when the social calendar is the fullest. This seems to also be aggravated during the time of semester examinations.

Gynecologically, most of these young women have normal pelvic findings. It has seemed to me that anteversion and anteflexion are far more frequent in them than retroversion and retroflexion. In my experience, retroversion in the nulliparous patient is very seldom a cause of congenital dysmenorrhea; but it is not uncommon to see a young woman with an antverted or anteflexed uterus and with a long, tapering cervix set well back in the vagina who suffers rather severely from congenital dysmenorrhea.

This is the type of patient who, in a bygone gynecologic era, was subjected to dilatation and curettage and the insertion of a stem pessary. In the early years of my gynecologic practice, I used to remove a dozen or more stem pessaries a year; now, fortunately, I doubt if I see more than one a year. Curettage, after dilatation, will occasionally give temporary relief; but I cannot recommend this procedure.

Having satisfied myself that the patient has no organic disease, I have what I hope is a reassuring talk with her and try to impress upon her that her pelvic organs are normal. If she is of marriageable age, which in our section of this North American continent is most likely to be found between the ages of 15 and 45 years, I tell her that marriage and childbearing will probably cure the dysmenorrhea. This suggested therapy seems most attractive between the ages of 18 and 25 years.

A few patients seem to be benefited by small doses of thyroid extract, even though there is no clinical or laboratory evidence of hypothyroidism; but most of this group gets the greatest relief from small doses of Phenobarbital, given one to three times a day for one week, before the menstrual

period is due. When the pain is not relieved by the foregoing therapy, I prescribe codeine and aspirin freely. Atropine sulphate in doses of 1-150 to Gr. 1-200 often gives prompt relief of the cramp-like pain but one must guard against the occasional idiosyncrasy to atropine.

Hormone therapy for the relief of congenital dysmenorrhea, with the exception of the occasional good results from thyroid extract, has, in my experience, been disappointing. Some patients respond to a luteinizing hormone given a day or two before the onset of menstruation or at the onset of the flow. This is a rather expensive treatment, whether it is given parenterally or by mouth, and that, plus the inconvenience, limits its use. Empirically, it seems to me, one sometimes gives his patient considerable relief from congenital dysmenorrhea by giving a course of estrogenic therapy for a week to ten days before the menstrual period is due. This is most likely to be effective in the patient who, along with congenital dysmenorrhea, suffers from premenstrual depression.

It goes without saying that in representing this phase of my subject, as well as in all the conditions I am discussing, that the patient must have been thoroughly examined before any therapy is prescribed. Two recent cases of congenital dysmenorrhea we have had obtained complete relief of this complaint when diabetes mellitus was discovered and brought under control.

(b) Acquired dysmenorrhea

This phase of the dysmenorrhea problem presents itself more readily to gynecologic classification. Most cases fall into one of three groups:

- (1) Salpingitis, usually of gonorrhreal origin
- (2) Pelvic inflammatory disease, secondary to post-abortal or puerperal infection.
- (3) Birth trauma or trauma from ill-advised inadequate gynecologic surgery.

Combinations of the foregoing can and do occur. For example: There is the young woman in whom a symptom-free retroversion existed long before she became pregnant. She has her baby and suffers a greater or lesser degree of cervical laceration. We believe in immediate repair of the cervix after the third stage of labor but many physicians do not favor such a plan. If she was not repaired following delivery, one may find a lacerated cervix with some erosion along with a retroverted, though involuted uterus. In such a case it is usually necessary to cauterize the cervix and fit a retroverted pessary at the time of her six weeks post-partum examination. The pessary is removed four weeks later and the patient is instructed in how to assume the knee-chest position. She is asked to repeat this when the menses have been reestablished, whereupon one again examines the cervix and checks the uterus for size and position. If the patient complains of dysmenorrhea and the uterus is still

etroverted, another trial of the pessary is made. If the dysmenorrhea is relieved then, one can be reasonably certain that the retroversion is etiologic.

With that foreword, let us examine, briefly, the three conditions I listed as favoring the development of an acquired dysmenorrhea. I am not going to include endometriosis in this list because, in my experience, when endometriosis has become established sufficiently to produce dysmenorrhea it has very probably advanced to the point where it is producing a train of other symptoms which are more or less constant and which overshadow the dysmenorrhea.

Gonorrhreal salpingitis, in my experience, is definitely on the decrease. A number of years ago I presented a paper on "Pelvic Inflammatory Disease" before the Minnesota State Medical Association and had no trouble in finding an ample list of patients to illustrate the gonorrhreal type of salpingitis. That was before our chemotherapy and antibiotic therapy had developed to its present, efficient status. So far this year, I have only seen three cases of acute salpingitis of gonorrhreal origin and all three responded promptly to penicillin therapy. The only case of chronic salpingitis of gonorrhreal origin I have seen this year was in a nonmenopausal patient with a large, myomatous uterus. The "retort" type of Fallopian tubes were discovered as an incidental finding in her case at the time of total abdominal hysterectomy.

One can conclude this portion of the discussion by saying that prompt recognition, conservatism, and adequate therapy usually will promptly cure dysmenorrhea due to a gonorrhreal infection.

Pelvic inflammatory disease, secondary to post-abortal or puerperal infection, is also of less frequent occurrence than it was a few years ago; but it still can cause dysmenorrhea. Better obstetric care plus the effectiveness of antibiotic and chemotherapy have done much to reduce puerperal infection. Fortunately, the same therapeutic agents have proven effective in so many post-abortal infections which in an earlier day would have either resulted fatally or in lifelong invalidism.

But when a patient with acquired dysmenorrhea comes to us for care and gives a history of post-abortal or puerperal infection, and on vaginal and rectovaginal examination we find parametrial thickening, tenderness, and pain on manipulation of the cervix, it is well to remember that most of the infections of this type are due to a streptococcus and that the risk of lighting up a quiescent infection by surgical intervention is very great. These patients will show an elevated sedimentation rate for a long period of time. It furnishes a most valuable guide as to the activity of any infection which may be present. Except in the very rare instance of a large pelvic abscess or in the presence of adhesions which interfere, critically, with bowel

function, these patients should be treated conservatively.

Acquired dysmenorrhea from birth trauma or trauma from inadequate or ill-advised gynecologic surgery remains a very serious problem. To mention just a few specific instances, the cervical stenosis resulting from partial amputation of the cervix or trachelorrhaphy, too extensive cauterization of the cervix, and stenosis from conization involving the internal os and ventrofixation of the uterus have all been noted as etiologic in acquired dysmenorrhea. Before subjecting such a patient to additional surgery for the relief of an acquired dysmenorrhea, we need to check and double check both the gynecologic and the general physical findings and review the history in great detail. I have "cured" some of these patients by careful instruction in birth control! But I am sorry to say that a number of them will not be cured by anything short of hysterectomy or a cessation of ovarian function.

4. Bleeding

By "bleeding" my nurse meant any abnormal bleeding from the female genital tract. Omitting pregnancy, which one cannot always do in gynecologic patients, I am going to limit my remarks to genital tract bleeding, not associated with pregnancy or menstruation. I am doing this deliberately to focus attention, primarily, on the cancer problem.

We will omit menorrhagia and metrorrhagia from this discussion because of their relationship to menstruation and because if they are not functional in character and do not yield to medical management they will require curettage, either for diagnosis or treatment or both.

The first bleeding we will consider is that from the cervix uteri. It would seem trite to remind a medical audience that in order to determine that a woman is bleeding from the cervix that it is necessary to look at the cervix. I have tried to break down two dangerous practices in the realm of Office Gynecology. Number one is that a bleeding woman must not be subjected to bimanual examination. This is a relic of the Dark Ages! It is in the class of the old woodcuts we see in ancient medical books where the male midwife is delivering a woman with an enormous drape, like a circus tent, around his neck and covering the legs, thighs, and genital tract of the patient. I suppose that male midwife could tell, by his sense of touch, when the baby was being born; but, beyond that, I doubt if he knew much about his patient. Nevertheless, it still happens, even in these modern days, that a woman is not examined because she is bleeding. It is indeed a tragedy when a woman with a history of vaginal bleeding, which extends over many months, finally has a bimanual examination and one finds an advanced carcinoma of

the cervix that can be diagnosed by bimanual examination alone.

Number two is that a speculum examination is not necessary to determine the source of genital tract bleeding in the female. Tell me, please! How are you going to diagnose bleeding coming from the cervix unless you look at the cervix? Is it because physicians may be afraid of what they are going to see if they look at the cervix? Surely not! I sometimes think we must have inherited a sense of false modesty from former medical generations. If that is the case, surely the volumes which have been written in recent years on cancer detection will ultimately get us out of this dangerous notion; and if that doesn't do it, it will not be long before the demands of our patients will make a speculum examination mandatory.

In my experience, the common causes of bleeding from the cervix uteri are cervicitis, cervical erosions, cervical polyps, and carcinoma. In all of these, including the malignancies, the bleeding is usually minimal in onset. Very frequently it amounts to only slight spotting. Postcoital spotting or bleeding is important. In women who have the douching habit, bleeding may be due to trauma from the douche point or from chemical irritation by the solution used. Pain is usually absent except in the presence of inflammatory changes; but whatever the cause may be, look at the cervix!

Bleeding from the body of the uterus likewise demands bimanual and speculum examination. You can't see the endometrium; but by bimanual and, especially, rectovaginal examination you can detect changes in the normal size, shape, and consistency of the uterus and, with the vaginal speculum in place, you can determine that the bleeding is coming from the cavity of the uterus.

With these fundamental statements regarding bleeding from the cervix and bleeding from the body of the uterus in mind, our duty to our patient with bleeding from either source is not fulfilled until we know the cause of the bleeding and until we institute adequate treatment to cure or correct it.

Since the epoch-making work of Papanicolaou in demonstrating that cancer cells could be stained and recognized from spreads made from the posterior vaginal cul-de-sac, widespread publicity has been given to this in popular lay magazines, sometimes with so much unrestrained enthusiasm upon the part of the writers that I am sure that most of us have had women come in for the "cancer test". My feeling is that even this unrestrained enthusiasm may serve a useful purpose by bringing the woman to her physician, provided that her physician then takes the time to examine her pelvis by bimanual, rectovaginal, and speculum examination, with or without a Papanicolaou spread.

Writers in medical magazines have been more conservative, and Papanicolaou himself has been most conservative in emphasizing the fact that positive tests were reliable but that negative tests did not mean that cancer was not present.

Since the taking of the spread and the fixing of it are procedures in office gynecology, a word about the aspiration technique and the spatula technique for obtaining the material to be fixed and stained is in order. With the aspiration technique the thick walled glass pipette with aspirating bulb is introduced into the posterior vaginal cul-de-sac, suction is applied to the bulb, and material obtained in the pipette is then spread on a glass slide for fixing and staining. With the spatula technique, a vaginal speculum is inserted and the material is collected by pressing the wooden spatula on to the cervix and rotating it around the circumference of the cervix. I have used both methods but recommend the spatula technique for two reasons: (1) One is likely to get more material from the surface of the cervix and from the top of the external os, and (2) and of far greater importance, with the spatula technique one is compelled to insert a vaginal speculum and loop the cervix while he takes his specimen.

In the early enthusiasm for the Papanicolaou test, the impression seemed to gain rather than acceptance that all one had to do to use this method effectively was to get himself some slides, sterilizing syringes or spatulae, a mixture of equal parts of 95 per cent alcohol and ether, and proper stains and he was in business! The technique of the test is simple. The interpretation of aspiration or anything but simple. Adequately trained Cytologists are few and far between. Furthermore, a Cytologist works at a distinct disadvantage when competing with the Pathologist, for the Cytologist is asked to pass on a number of individual cells, not in their normal histologic arrangement, whereas his Pathologist has a right to hope that he will at least be given representative tissue from all locations under suspicion.

I do not believe it is economically sound nor scientifically desirable to screen, by the Papanicolaou technique, every gynecologic patient who comes into one's office; nor do I think that the average gynecologist or the average general practitioner is capable of interpreting what he sees in such stained slides. One does not become an expert Cytologist by a few days' instruction in a laboratory or by viewing the beautiful color plates from various sources dealing with the interpretation of this test. One is most fortunate if he can send his fixed slides to a Cytologist of experience for interpretation.

With or without Papanicolaou test, and I am certain that in the experience of most of us it would be without the benefit of that test, it is most important in the practice of office gynecology to

remember the importance of a careful history and the urgency of a detailed bimanual, rectovaginal, and speculum examination in our search for the cause of genital tract bleeding.

When I have become suspicious, after the foregoing, that a malignancy may be present, I insist upon a diagnostic curettage and a biopsy of the cervix or if the suspicious lesion is on the external genitalia or in the vagina, of representative biopsies from those areas. Since one is most often concerned with possible malignancies of the cervix uteri or of the body of the uterus, it has seemed to me rather important to digress a moment from the subject of office gynecology to the importance of an adequate diagnostic curettage and biopsy of the cervix. These are not office procedures.

My own thinking and practice in this regard as radically changed a number of years ago. Whereas I would sometimes take aspiration biopsies in the office with the endometrial suction curette and punch biopsies with a modified Astatic punch forceps, I have long since abandoned both procedures except in the occasional case where I may want a "sampling" of the endometrium, chiefly to determine whether or not a secretory endometrium is present.

My procedure now is as follows: With the patient anaesthetized in the hospital operating room and with the bladder empty, a careful manual examination is repeated, the weighted vaginal speculum is inserted, and the cervix is grasped with a tenaculum. Progressive dilatation is then done with the Hegar dilators, sufficient to admit a medium sized sharp curette. With a moist sponge under the posterior lip of the cervix, the endocervix is carefully curetted, paying attention also to the area about the internal os. This is placed in formalin and labeled endocervix. A thorough curettage of the cavity of the uterus, clockwise and then counter clockwise, is then done. All of the tissue obtained is collected on a moist gauze sponge, placed in formalin, and labeled endometrium. Then a circumferential biopsy of the cervix with a cold knife is done taking this core of cervical tissue, embracing as it does the most critical junction of columnar and squamous epithelium, is placed in formalin and labeled cervix. Only in this way do I feel that one has done his utmost to detect a uterine malignancy, if one is present, and to give one's pathologist the maximum opportunity to render the greatest service to the patient and her physician.

Yes, I know that hospital services are expensive. So are funerals! Early recognition of malignancy anywhere is a prerequisite to salvage. Now where is the truth of that statement more eloquently illustrated than in the early recognition

of carcinoma of the cervix uteri. In recent years gynecologists have talked more and more about carcinoma in situ in this location. This, as I interpret it, means that the cancer has not yet invaded the stroma of the cervix; but to me cancer of the cervix, invasive or noninvasive, is destructive and deadly until removed. The best chance for recognizing it early and eradicating it is by circumferential biopsy.

Fortunately for most patients, uterine bleeding is not due to malignancy. Time will not permit a discussion of the various causes for this bleeding which may be successfully treated by office gynecology, but I must add that a diagnostic curettage will often furnish valuable clues as to the nonmalignant causes for uterine bleeding and that it is often curative. I certainly do not think that hormone therapy should be given to any menopausal woman who is bleeding irregularly without a diagnostic curettage; and when I get a diagnosis of endometrial hyperplasia and the pathologist adds, as he so frequently does, "Swiss-cheese endometrium," estrogenic therapy should be used most cautiously and its effects checked very carefully if it is used at all in that patient.

5. Symptoms of Prolapse

In this connection I include cystocele, rectocele, and the milder degree of cervical prolapse as well as the classic example of the complete prolapse of the uterus outside of the vagina. The cause is usually trauma, incident to child-bearing; but recently I saw one case of complete uterine prolapse in a virgin.

Our chief problem in office gynecology, when we are dealing with symptoms of prolapse, is to properly evaluate the symptoms and decide whether the treatment should be surgical or non-surgical.

Urinary frequency, a pressure sensation above the pubis, and a feeling that "something is coming down" are among the chief symptoms. One needs to study these patients very carefully, especially where the prolapse is minimal, to determine whether or not the symptoms complained of are actually of gynecologic origin. Frequently, one will obtain much help in the evaluation of the patient's symptoms by examining her in the erect position. Often one can relieve the symptoms of prolapse by insisting upon and accurately prescribing an adequate reducing regime for the overweight patient, postural exercises, or orthopedic support for the woman with inadequate musculature and the necessary sedation for the patient with hypertension, along with proper diet and bowel regulation for the almost invariable constipation.

One of the reasons for the rather high incidence of recurrence after various surgical procedures for the relief of prolapse is that the

patient was not given sufficient preoperative study to properly evaluate her complaints nor sufficient time to put her in the optimum condition for surgery. Within the past two months I operated upon a patient who, within the past five years, had had a vaginal plastic operation for uterine prolapse, followed a few weeks after the recurrence of the prolapse by an abdominal procedure, designed to hold up the uterus, and, within a year, by partial amputation of the cervix in an attempt to at least hide some of the prolapse. All three procedures failed and the patient had worn a doughnut pessary for several years before I saw her. Her anterior and posterior colporrhaphies had been well done. I am sure that if she had had more detailed study, prior to at least her first operation and probably before her second, it would have been apparent that a hysterectomy was urgently needed by this post-menopause patient.

6. Pruritus and/or leucorrhea

Pruritus vulvae or pruritus vaginae is certainly a common complaint, not only among the "great unwashed" but among gentlewomen as well. It has so many causes, from pediculosis pubis to allergy, that to cover all of them in a short time would be impossible. Search for the cause, locally, and along constitutional lines. Among the local causes, look for lice among the high and the low and check vaginal secretions not just for the gonococcus — which you will find, incidentally, not too frequently—but for the trichomonas vaginalis and monilia albicans which will be found very frequently.

Among constitutional or systemic causes, rule out diabetes mellitus, disturbances of thyroid metabolism, and evidence of estrogenic deficiency. Leukoplakia vulvae and senile vaginitis cannot be easily missed when well advanced. In their incipiency and when they are beginning to produce intense itching, they may be overlooked.

In general, the simpler the therapy the more effective will be the results when the cause is known. For temporary but grateful relief in pruritus vulvae, cooling applications of watery solutions are more effective for temporary relief than are creams and ointments. An exception to this would be an estrin cream, applied for the relief of senile vulvitis or vaginitis. It's old fashioned but effective to make a mixture of equal parts of a saturated solution of boric acid and witch hazel and apply this as cold as possible on cotton to the labia.

Monilia vaginitis, with its large, white vaginal flakes and patches and the intense, allergic-type vulvitis, associated with the almost intolerable pruritus vulvae, is especially troublesome in pregnancy and immediately after a menstrual period. I get my best results in treatment by the use of 2 per cent aqueous solution of gentian

violet, applied to all folds of the vagina, the cervix, the labia, and sometimes out to the inner surfaces of both thighs in severe cases. This is a messy form of treatment. It is sometimes necessary to repeat it every few days and especially, to re-examine the patient immediately after menstruation to check a recurrence.

One must remember not to let his solution of gentian violet become concentrated. It becomes very irritating to the skin of many people who use it in a concentration greater than 2 per cent and not infrequently one will find a patient who is so sensitive to it that she cannot tolerate it at all in the form of the aqueous solution. In such patients I try them on an applicator full of gentian violet gel in the vagina, alone or preceded by a cleansing of the vagina with a 1:1,000 aqueous solution of Zephiran.

The outstanding clinical characteristics of trichomonas vaginalis vaginitis are a light green to yellow frothy, abundant, and foul smelling discharge, a feeling of soreness or burning in the vagina, redness, itching or burning of the vulva, chette and, not infrequently, pruritus vulvae. The trichomonads are easily found by taking a sample of the vaginal secretion, diluting with it warm normal saline solution, and looking at it in a hand drop under the low power of a microscope.

The fact that there are so many remedies for this affliction indicates that no one is specific. This disease, like monilia albicans vaginitis, is likely to become aggravated just after the menstrual period. That fact has an important bearing on treatment. My plan of treatment is as follows:

(1) If the vaginitis is not so acute that manipulation causes pain, I cleanse the vagina with green soap and warm water or an aqueous solution of 1:1,000 Zephiran solution, then dry the vagina with cotton applicators.

(2) One Floraquin tablet (Searle) is to be placed in the anterior and one in the posterior vaginal fornix and this is followed by an applicator full of triple sulfa cream (Ortho) into the vagina. The triple sulfa cream has been found most effective in reducing the number of pyogenic organisms so frequently present in trichomonas vaginalis vaginitis.

(3) The patient is given a prescription for Floraquin tablets (Searle) and for a tube of Aci-jel (Ortho) with applicator. The latter supplies the necessary acidity to inhibit the trichomonads and make the action of the Floraquin more effective. The patient is told to place one Floraquin tablet into the vagina, as far as she can reach, every morning and each night at bedtime. After she has inserted the bedtime Floraquin tablet she is to insert one applicator full of Aci-jel into the vagina. This treatment—and it is of the utmost importance—is to be continued.

a, throughout the menstrual period and until the immedication is finished.

This (4) Upon completion of the course of treatment the patient is to report for re-examination. No douching is permitted at any time.

Leukoplakia vulvae is a dangerous lesion.

When ulcerative lesions appear, and these are most likely to be found on the anterior portions of the labia majora and about the clitoris, there is added to the pruritus a severe burning type of pain which is most distressing. These ulcerations will sometimes heal following the local application of a 2 per cent aqueous solution of gentian violet and sometimes following the application of an estrogen cream. Strong caustics must not be used.

I have been cautiously using estrogenic therapy for not over periods of two weeks at a time in some of these patients with rather good results. If the normal color of the vulva returns and the ulcerations heal under this treatment, the patient is instructed to return once a month for re-examination. If there is no change or if the lesions advance, multiple biopsies are taken. One should remember that he will occasionally find such a severe leukoplakia vulvae, without malignant changes, that it interferes with sleep in spite of all the local treatment one can devise. Such

patients can readily become psychopathic and there is danger of drug addiction. It is in such cases that simple vulvectomy finds its greatest usefulness. It can be done without producing dyspareunia or otherwise disturbing the female sexual function. The main point in the surgical technique is the accurate approximation of skin to mucus membrane with fine, nonabsorbable sutures on a fine needle and placed without strangulation of the tissues.

This completes my discussion of my nurse's list of the six most common gynecologic complaints we have found in private practice. I am sure that I have not treated all of those complaints adequately; but I do know that I have learned a great deal about the importance of office gynecology in trying to treat these complaints with some satisfaction to the patients. I hope that I have offered some suggestions which may prove helpful to you in practice. This informal discussion has not focused attention upon the operating pavilion nor upon any brilliant feats of surgical technique; rather it has emphasized some of the daily gynecologic problems to be found in your office and in mine; problems which, when solved, will make us better physicians.

Abstract

Clinical experiences with Chlorpromazine (Largactil) in spinal anaesthesia: Morris, L., Mathews, W., and Mayer, J.: Curr. Res. in Anal. and Anaesth.: 33: 340, Sept.-Oct., 1954.

Chlorpromazine reduces nausea and vomiting by directly depressing the vomiting centre. This study was undertaken to determine whether chlorpromazine prevented or stopped nausea and vomiting occurring while the patient was analgesic by spinal anaesthesia.

Two groups of patients were studied. In the first group there were 23 cases who were given chlorpromazine for nausea and vomiting during spinal anaesthesia. In 21 of the 23 cases there was complete and immediate relief. The second group contained seven cases in whom nausea and

vomiting was deliberately induced by gastric traction. Each of these seven were then given chlorpromazine intravenously and a second attempt was made to induce vomiting by gastric traction. In this group none developed nausea and/or vomiting after the administration of chlorpromazine.

In both series the drug was administered by the intravenous route. The dose ranged between 12.5 and 37.5 mgms. The average dose was 17.5 mgms.

Side reactions of drowsiness and potentiation of premedication were observed but were not undesirable. Tachycardia was not noted and only mild hypotension occurred.

M. Minuck, M.D.

Medicine

Concepts of Bronchiectasis

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From time to time medicine becomes restrained and inhibited by its own hand. By setting down rigid principles it builds a shell about itself which prevents new growth. Of course the great example is the thousand years of stagnation created by Galenic dogma. But in lesser spheres and in particular subjects we are always inclined to this tendency, so that it has often been remarked that medical progress is more a matter of discarding errors than of acquiring novelties, and to explode a theory is better than to make one.

In spite of all the positive advances during the nineteenth century, one sometimes wonders whether the greatest achievement during that time was not the renunciation of the vicious practice of blood letting. Perhaps this retreat did more for mankind than all the advances made during the century. One could give many similar examples. The most striking recent withdrawal from a time honored principle has been the rejection of rest (local and general) as a panacea for almost all disorders, mental and physical.

In the light of history it is clear that many of our most cherished practices and principles will soon be shown to be wrong. Knowing this, we must be vigilant and critical of everything that becomes routine or accepted. The shell that we build about ourselves in the 19th century, and which to some extent still hampers us, arose from the progress in the knowledge of morbid anatomy. Every great man in the practice of medicine from Morgagni to Osler owed his fame to the correlation of clinical signs and symptoms with morbid changes in this or that organ or tissue. The list includes Bichat, Laennec, Bright, Addison, Graves, Hodgkin, Stokes, Paget, Rokitansky, Virchow, Charcot, Lister, Koch, Allbutt, Osler and many more. These contributions were spectacular and necessary, and they have hampered us only because we have respected them too much, and interpreted them in a way not intended by their originators.

The post-mortem findings in pulmonary infections have been particularly misleading; the condition as it existed in the living patient is always obscured or obliterated by terminal pneumonia, atelectasis, and heart failure. Since the advent of x-rays pneumonia can be better visualized in the living, and it is found that most frequently it bears only superficial resemblance to pictures

fabricated by Morgagni, Laennec, Virchow, Boyd. Hence, the frequent clinical diagnosis "primary atypical pneumonia" and "pneumonia". It is obvious that during life, in those that recover, pneumonia is quite different from the condition found at autopsy.

In bronchiectasis in particular, the morbid anatomy concept is but rarely applicable to living cases. The usual picture of bronchiectasis is a chronic progressive, grossly septic entity, terminating in total disability or death, unless halted by surgical removal, is at complete variance with facts. The use of lipiodol for bronchography in the clinical discovery of asymptomatic or mild cases have shown that much bronchiectasis can exist without symptoms, or with but slight occasional bouts of cough and expectoration. Indeed, most cases, unless they have been neglected for long years can live with little or no disability. This is particularly so since the advent of antibiotics and a better appreciation of the value of physiotherapy.

Another misconception, partly created by morbid anatomy, is that chronic non-tuberculous pulmonary infections can be pigeon-holed into mutually exclusive entities, e.g., emphysema, fibrosis, bronchiectasis, atelectasis, and "chronic bronchitis." The fact is that none of these conditions exists alone; each chronic case shows a combination of all in varying proportions. The presence or absence of bronchiectasis is often only of academic interest, and its discovery by bronchoscopy is often fortuitous. The exact extent and distribution of bronchiectasis was important when surgery was considered to be the treatment of choice. This is rarely indicated if available surgical measures are applied, (e.g., antibiotics and physio-therapy).

The following two cases illustrate some of these points:

Case No. 1

1919—Born in Toronto.

1951—Enlisted in the Canadian Army and received full training as paratrooper without symptoms of any sort.

March, 1953—Suddenly developed pain in the lower anterior half of left chest with some cough, slight expectoration and pyrexia. Was quite well for three or four days and was told he had "pneumonia." Was kept in military hospital for one month. Had pain at the top of left shoulder and along the side of the neck. He made a complete recovery except for some residual pain in the shoulder and returned to duty.

November 1, 1953—The chest pain suddenly recurred and was moderately severe, particularly on breathing. Had chills and fever.

November 5, 1953—Admitted to Deer Lodge Hospital. Still has pain in the left chest and in the left shoulder. Very slight cough and expectoration. No blood. Temperature, pulse and respirations normal. Sed. rate 3 mms. Leucocyte count 7,000 to 11,000. No acid fast bacilli. No constitutional symptoms.

Physical Examination

Very well built and well muscled. Looks unusually strong and fit.

Left base behind shows some indrawing, limitation of movement, reduced breath sounds and reduced tactile fremitus. There are post-tussic crepitations in the lower thirds posteriorly and as high as the fourth rib anteriorly. Relative dullness in right lower third behind.

X-ray: The left diaphragm is slightly elevated and adherent to the outer angle. The heart shadow is moved to the left. The whole of the left lung is more translucent and slightly smaller than the right.

Differential diagnosis:

1. Spontaneous pneumothorax.
2. Atelectasis.
3. Emphysema.
4. Bronchiectasis.

November 17, 1953—Bronchogram: Distorted and dilated bronchi throughout the left lower lobe and lingula. X-ray opinion: "Probably a congenital condition." Bronchogram of the right lung is normal.

We then got the following history through his family:

1921—Aspirated lima bean; in Toronto hospital for several months; was said to have collapse of his lung and was bronchoscopied.

1922/53—Apparently led a normal life without symptoms. Was strong and muscular, and played ordinary games. Thinks he might have been short of breath after much running.

1939/45—Was rejected as Army recruit because of x-ray films. Had no symptoms and was quite strong and robust. Also was turned down for life insurance.

November 29, 1953—Respiratory symptoms have cleared up, but pain in left shoulder persists. It radiates into left side of the neck and down the back of the left arm to the elbow. He now says that he thinks this pain commenced before the broncho-pneumonia and followed a parachute jump. X-ray of the shoulder and cervical spine "are negative."

Comments: Gross bronchiectasis, fibrosis and emphysema dating from bronchial occlusion and sepsis in early childhood. In spite of this he continued in perfect health and without symptoms from age 3 until age 34. This demonstrates how innocuous bronchiectasis may be if it drains well. It also shows the intimate association of three major "lung lesions."

Case 2

Mr. B. A. G.

July 3, 1925—Born in Northern Manitoba. Was never ill until . . .

1939—Measles. Following this developed a mild cough.

July, 1940—Rejected for Army service because chest x-ray showed evidence of "Bilateral Basal sepsis."

July, 1943—Enlisted in Canadian Army. Enlistment chest x-ray report was "doubtful" and it was recommended that this man was "unfit for military service."

1943—Had routine chest x-ray followed by bronchograms. Total hospitalization for chest investigation was 4 months.

March, 1944—Hospitalized for 2 months in Canada for pneumonia.

October, 1944—Overseas. Saw service in England, Holland, Belgium and Germany.

April, 1945—Bilateral bacterial pneumonia while in Holland. Repatriated to Canada on medical grounds and treated in Canada until July, 1945. Bronchograms showed bilateral lower lobe bronchiectasis.

September, 1945—Medical discharge from the army. After discharge did no work until 1949.

October, 1945—Treated for sinusitis.

October, 1945, to May, 1946—Five admissions to various Saskatoon Hospitals for bronchiectasis.

March, 1946—RLL lobectomy in Saskatoon.

June, 1946—LLL lobectomy in Saskatoon.

June, 1946, to December, 1946—Five further periods of hospitalization in Saskatoon for chest condition.

February, 1947—Admitted to North Battleford Mental Hospital for Treatment of "Reactive Depression." Discharged June, 1947.

August, 1947, to June, 1952—Worse since lobectomy of 1946. In hospital (The Pas and Deer Lodge) 27 times. Chief symptoms were dyspnoea, cough and expectoration, post operative wound pain, agitation, depression and sinusitis. Had sub-mucous resection (1945). Section of intercostal nerves for pain (1948).

June 17, 1952—at this time it was recorded that fine inspiratory creps were heard in the left base. Chest x-ray suggested a tension pneumatocele over the right base and widespread, far advanced emphysema. Occupation at this time was C.N.R. laborer—it was suggested that the patient do light work only.

Treated with antibiotics, posturisation, breathing exercises and bronchoscopy. Good results since he did not need hospitalization again for chest condition until January, 1954.

January, 1954—Hospitalized Deer Lodge Hospital for recheck of his chest condition, "post lobectomy, compensatory emphysema with bilateral bronchiectasis." Complaints were dyspnoea, cough, wheezing, expectoration of 1 cup of mucoid or mucopurulent sputum daily. No fever or rigors.

Chest showed 1 inch expansion bilaterally. T. F. absent bilaterally. No dullness. Breath sounds absent below scapulae and in both axillae. Post-tussic crep right lower chest anteriorly. All sinuses were cloudy on x-ray.

Treated with antibiotics, bronchoscopic drainage, breathing exercises, posturisation. Also had Proetz displacements for infection of sinuses. Discharged "improved" with advice to do light work only — referred to casualty rehabilitation section for employment assistance.

Summary

Post pneumonic bronchiectasis since age 14. Had three lobes removed; left with very gross disability but still responds fairly well to intensive medical treatment which was never tried before

surgery and could conceivably have kept him fair health.

Conclusions

1. Bronchiectasis may be relatively innocuous. It causes trouble only when it is grossly infected. When there is hemorrhage. We possibly should think of "bronchiectasis" as we do of "diverticulitis" and "bronchiectitis" as we do of "diverticulosis."

2. Most cases can be kept well for indefinite periods by non surgical treatment (antibiotics, physiotherapy and treatment of upper respiratory infection).

3. Lobectomy is not likely to remove all affected part and in itself leaves a disability. Should never be advised until other treatment has been given a prolonged trial.

Anaesthesiology

Modern Methods of Assessing the Patient for Surgery*

Max Minuck, M.D.**

In this paper I shall attempt to evaluate briefly some of the recent, and some not so recent, methods available to us for assessing the preoperative patient. The object of this assessment is fourfold: (1) to determine the patient's ability to withstand the stress of surgery and anaesthesia, (2) to ascertain his ability to carry on a successful existence after some part of a vital organ, e.g., the lung has been removed, (3) to aid in the selection of the safest anaesthetic agent and technique for the particular patient, and (4) to discover those patients who are particularly susceptible to various post-operative complications such as shock, atelectasis, and pulmonary embolism. This last group may then be subjected to special prophylactic measures in an attempt to decrease the morbidity and the mortality attendant upon these complications.

When assessing a patient for a major surgical procedure close attention must be paid to three vital systems: (a) respiratory, (b) the heart, and (c) the peripheral vascular system and its contents.

Respiratory

Estimations of pulmonary insufficiency have assumed an increased importance in medicine during the last decade or two. With the surgical invasion of the thorax a knowledge of pulmonary function has become of importance not only to the physiologist and the internist but also to the surgeon and the anaesthetist. Furthermore, an assessment of the function of individual lungs is of particular significance when pneumonectomy is being considered, as it is obviously indiscreet to

remove a lung successfully only to leave the patient a "respiratory cripple."

Since the major function of the lungs is to arterialize venous blood, one may expect arterial blood studies to yield valuable data on the pulmonary functions for oxygen uptake and carbon dioxide removal.¹

Table I

	MEAN	SD
OXYGEN SATURATION - % --	97.4	2.1
OXYGEN PRESSURE - MMS OF HG -	97.1	2.7
CARBON DIOXIDE CONTENT, WHOLE BLOOD	22.2	0.9
VOLS %	49.5	2.0
CARBON DIOXIDE, PRESSURE MM. HG	41.6	2.9
PH	7.39	0.03

COMPILED BY SINGER R AND HASTINGS, AB FOR THE "HANDBOOK OF BIOLOGICAL DATA"

Table I represents normal values for arterial oxygen content, carbon dioxide content and pH in healthy young adults.

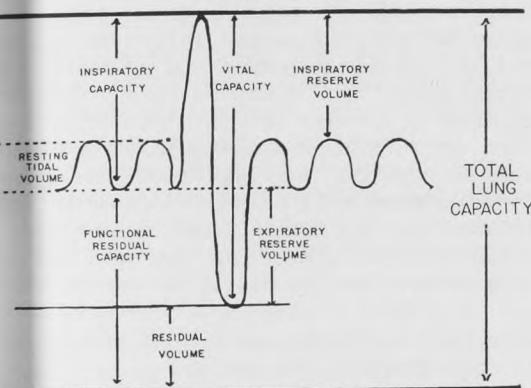
Neither changes in oxygen content nor changes in the carbon dioxide tensions or arterial blood indicate primary pulmonary pathology in these cases. Elevations in CO_2 combining power occur in compensated metabolic alkalosis as well as in metabolic acidosis. Central depression greater than pulmonary insufficiency may lead to respiratory acidosis. Thirdly, very disabled asthmatics may have a fairly normal oxygen saturation. In these and many other reasons, information regarding pulmonary insufficiency must be obtained by other means.

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** Delivered at a meeting of the Winnipeg Medical Society, Winnipeg, December 10th, 1954.

The respiratory pattern may be recorded by means of a closed spirometer. Pulmonary volumes are measured both by direct and indirect means.³ Certain of these volumes, e.g., the residual air and the functional residual capacities are significantly increased in asthma, emphysema and bronchostosis.

Figure 1



Subdivisions of lung volumes. (From Pappenheimer, J. Federation Proc., 9: 602, 1950)

The vital capacity is affected by numerous diseases that are totally unrelated to pulmonary function, and measurement of this volume alone is not of much value in estimating pulmonary insufficiency, nor is it of significance in predicting the ability of the patient to withstand surgery. In 1951, Gaensler⁴ developed a technique for determining a timed vital capacity on a fast moving drum. Table II shows the percentage of the total capacity expired during the first second, during the first two seconds and during the first three seconds of forceful expiration by normal people and those suffering from asthma, emphysema, and bronchiolar stenosis.

Table II

	NO OF PATIENTS	FIRST SECOND	FIRST TWO SECONDS	FIRST THREE SECONDS
NORMAL	35	83	94	97
ASTHMA	28	43	59	71
EMPHYSEMA	40	42	57	68
BRONCHIOL STENOSIS	6	52	68	78

PILED FROM GAENSLER, E.A., "TIMED CAPACITY MEASUREMENTS OF VENTILATORY DEFECT."

AM. REV. TUBERC.: 64: SEPT. 1951, 256.

With this method of timed capacity measurements Gaensler showed a correlation between the percentage of air expired during the first second of forceful expiration and other tests for ventilatory function such as maximum breathing capacity, air velocity index⁵ and some other tests for pulmonary function.

The maximum breathing capacity⁶ refers to the maximum amount of air that can be ventilated by voluntary effort during a measured period. Comroe¹ feels that although this measurement yields some information regarding the mechanics of breathing in many types of pulmonary disease, in general it depends on so many factors that a low value merely indicates that some abnormality exists and is not pathognomonic of any single disease. He feels, furthermore, that it is a needlessly exhausting test. One is left with the impression that, more important than the actual figure obtained is the careful observation of the patient during the performance of these tests and watching for the onset of distress. Although isolated figures may not be of much value, serial determinations of maximum breathing capacity, walking ventilation, and vital capacity may be of value in determining the efficacy of any form of treatment that is being carried out.

One-lung spirometric measurements were first performed by Jacobus, Frencher, and Bjorkmann in 1932.⁷ The objections that the patient tends to hyperventilate due to discomfort and apprehension, and that there is a great increase in resistance to breathing through the small calibre of the tubes required for bronchspirometry have been largely overcome by the introduction of the Carlen's tube, a soft pliable, double-barrelled catheter offering minimal resistance to breathing⁸.

Recently, Hanson of Stockholm⁹, has published his experiences in successfully occluding the right or left pulmonary arteries in man for varying intervals of time without any serious disturbances to the patient. Others, by simultaneous occlusion of the bronchus on the same side, have accomplished a "physiological pneumonectomy," and were able to predict the behaviour of the patient should the diseased lung be surgically removed¹⁰.

A little-used method for determining the function of individual lungs is that of differential fluoroscopy. This examination can yield valuable information which may be missed by other means of investigation, including broncho-spirometry. One looks for trapping of air, movements of the mediastinum, diaphragms, and the chest cage. According to Birath and Craford¹¹, intrapleural adhesions are the commonest causes for impaired diaphragmatic mobility with the production of ventilatory dyspnea. One looks also for lightening of the dark areas with maximal inspiration. Registration of maximal diaphragmatic movements by double exposure on the same film is also very useful. Both antero-posterior and lateral views should be taken for completeness¹¹.

A very simple bedside test may be used to reveal the atelectasis-prone individual. The patient is asked to cough after taking a deep breath. A positive test is followed either by a paroxysm of coughing or the expectoration of varying amounts of sputum¹². Often these people are heavy smokers

and have varying degrees of basal sepsis. These are the patients that require extra prophylactic measures in order to prevent postoperative pulmonary complications.

The Heart

The presence of cardiac abnormalities contributes very definitely to a serious increase in operative and postoperative morbidity and mortality. It is of great importance, therefore, to assess the cardiac patient not only with regard to the choice of the anaesthetic agent and technique to be used, but also for predicting his actual chances for survival.

In the series, analyzed by Levine¹³, and depicted in Table III, 414 cases had been subjected to 494 major surgical procedures. The overall mortality was 6.3%. In computing this mortality rate Levine has considered only those cases of "unexpected deaths." This group contained all those cases that would not have died had no operation been performed. This rate is very significantly higher than a "normal" mortality of less than 0.5%. From the table one readily sees that coronary heart disease with a rate of 40%, congestive heart failure with its incidence of 14.9% and syphilitic aortitis with 7.7% add materially to the risks of surgery.

Table III

	Cases	Mortality (%)
Valvular disease	147	2.1
Non-valvular disease, hypertension, myocarditis, etc.	167	4.9
Auricular fibrillation	108	3.0
Coronary heart disease, angina pectoris coronary thrombosis	41	7.7
Syphilitic aortitis	13	7.7
Paroxysmal tachycardia	6	0
Congestive heart failure with nephritis	50	14.9
without nephritis		14.9
Hypertension less than 160 mms. systolic		5.9
more than 160 mms. systolic		7.3

Compiled from Clinical Heart Disease. Levine, S. A., 4th ed.: 264, 1951.

To aid in the preoperative assessment of these patients with heart disease one must rely on X-ray size of the heart, electrocardiographic interpretations of arrhythmias and the condition of the myocardium, as well as simple clinical examination. Various indices have been evolved to assist in the evaluation of cardiac reserve¹⁴, but these are of limited value. Of greatest importance is simple questioning to determine the patient's ability to perform work. "Does walking quickly or climbing stairs make you short of breath or give you pain in the chest?" "Do your ankles swell?" "How many pillows do you need at night?" If after receiving answers to these questions, one is still in doubt, then walk with the patient along the corridors and up the stairs observing him carefully for signs of distress.

To reemphasize, the presence of severe congestive heart failure and recent myocardial infarction militates against any elective surgery. If emergency surgery is necessary then time should be allowed for rapid digitalization, and for treatment of serious oedema with intravenous mercurials.

Cardiac patients, if well compensated, generally fare remarkably well during surgery, provided that extraordinary precautions are taken to guarantee adequate oxygen, (b) prevent the accumulation of carbon dioxide, and (c) guard against hypotension. This optimistic statement must be buffered by another that has been attributed to Ochsner. "I think it would be unfortunate if surgeons receive the impression that patients suffering from heart disease are especially safe because they believe that they are safe only because they are considered to be unsafe." In other words, essential surgery need not be denied the cardiac patient, but, if a general anaesthetic is required, greater care must be taken regardless of how trivial the brief procedure is to be.

Chronic Shock

Clarke and his co-workers¹⁵ have shown that when patients lose weight during chronic illness their blood volume is reduced almost in direct proportion to the weight loss. The surgical significance of this is an increased susceptibility to shock. They termed this syndrome "chronic shock." A more appropriate term might be chronic blood volume deficit. This condition may be corrected by replacing this deficit with whole blood. It is characteristic for this condition that determinations of plasma proteins, hemoglobin, hematocrit, red blood count, etc., may all be within normal limits. This condition should be suspected from the history of weight loss, and proven by estimating the patient's volume and comparing it to the expected blood volume based on his normal weight.

A practical clinical guide to the replacement of the deficit is to give the patient 40 ccs. of blood for each pound of weight lost. It has been shown repeatedly that when this blood volume replacement has been carried out preoperatively, the patient has withstood long shocking procedures without any hypotension^{16, 17}. One must remember that this view of "chronic shock" is no longer generally accepted in its simple statement of blood volume deficit¹⁸; however, it is not within the author's scope to discuss fully the pros and cons of this question.

Fluid and Electrolyte Balance

The patient in biochemical imbalance presents an increased risk to the hazards of surgery and anaesthesia, and wherever possible these imbalances must be corrected. Marked upsets in water and electrolytes occur in such conditions as acute nephron necrosis, prolonged diarrhea and vomiting, prolonged starvation and long-standing gastro-intestinal fistulae. These occur particu-

where the treatment of these conditions has been recharacterized by the administration of potassium-free fluids.

From the tremendous mass of highly complicated material appearing in the literature a few easily understood facts eventually emerge. For a working knowledge of fluids and electrolytes one needs to memorize only a few facts and figures.

A. Distribution of body water

1. 70% of the body weight is water.
2. 50% of the body weight is intracellular water.
3. 20% of the body weight is extracellular water.
4. Extracellular water may be further subdivided — 5% of the body weight is plasma, and 15% of the body weight is interstitial fluid. When determining the electrolyte content of extracellular fluid one may think of the plasma and the interstitial water as one compartment and representing 20% of the body weight.

3. The millequivalent is merely the molecular weight of an element divided by its valency and multiplied by 1000. When using this term one is referring to **chemically equivalent** weights of different electrolytes. Furthermore when using this term one can readily grasp the concept of chemical equality of solutions of salts. Chemical equality indicates that in any solution all the positively charged ions (cations) must equal all the negatively charged ions (anions), i.e., in the plasma the cations total 155 meq/L and so do the anions total 155 meq/L.

One may convert mgms. % into meq/L by using the following formula:

$$\text{meq/L} = \frac{\text{mgm. \%} \times 10 \times V}{\text{molecular weight}} \quad V \text{ refers to the valency.}$$

B. Distribution of some of the electrolytes (meq/L).

Table IV

	Intracellular	Plasma	Interstitial
Sodium	12	143	143
Chloride	0	103	103
Carbonate ion	0	27	27
Potassium	120	5	5
Magnesium	25	2	2
Proteins	70	16	2

From Table IV one sees that chlorides and sodium ions are entirely extracellular and cations such as magnesium and potassium are entirely intracellular. One of the facts to be grasped from his distribution is that, whereas measurement of the extracellular electrolytes will yield a fairly accurate estimation of total sodium and chloride content of the body, determination of extracellular potassium will not yield this information.

C. Daily Requirements

- a. Water — insensible loss plus urinary output.
- b. Sodium, Chloride, and potassium are all within 75-110 meqs.

c. Calories, vitamins and minerals are of less importance on a short term basis.

E. Daily losses

- a. Insensible loss of water via the skin and lungs, 1000ccs.

b. Table V

Gastro-Intestinal Tract and Urinary Losses
Concentrations in meq/L

	Na	K	Cl	Water
Gastric (fasting)	60.4	9.2	84	2500 ccs.
Small bowel (suction)	111.3	4.6	104.2	3000 ccs.
Ileostomy (recent)	129.4	11.2	116.2	
Ileostomy (adapted)	46.0	3.0	21.4	
Caecostomy	52.5	7.9	42.6	
Bile	148.9	4.98	100.6	500 ccs.
Pancreatic secretion	141.1	4.6	76.6	700 ccs.
Urine (normal)	40.9	20-60	40-120	1500 ccs.
Urine (pathologic)	5.312	5-166	5-210	O-several Litres.

Adapted from Lockwood, J. S. and Randall, H. T., Bull, N.Y. Acad. Med., 25: 228, 1949.

Summary

When assessing a patient for a major surgical procedure one is interested not only in his ability to withstand the immediate stress of surgery and anaesthesia, but also in discovering those patients that are susceptible to certain postoperative complications. This assessment is best done as soon as surgery is being considered. If the patient is in hospital then all interested persons including the anaesthetist should be consulted. If the patient is not in hospital then he may be referred to a pre-operative anaesthetic outpatient clinic²⁰. Here the patient is assessed and sent back to the referring doctor with recommendations for preparation of the patient for surgery.

This paper has been a brief review of some of the methods available to us for assessing the pre-operative patient. It must be emphasized that the most important part of the assessment is a careful history and clinical examination. One must question the patient particularly with regard to the functional state of his heart and lungs. This will suffice in the vast majority of patients, but in the border-line and the doubtful cases, one has to resort to more complicated techniques in order to determine accurately the risks involved.

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Pesticides

Council on Pharmacy and Chemistry* Report to the Council

The Council has authorized publication of the following report from the Committee on Pesticides.

R. T. Stormont, M.D., Secretary.

Over two years ago, a Committee report, "The Health Hazards of Electric Vaporizing Devices for Insecticides" (J.A.M.A. 149: 367 [May 24] 1952), described the dangers of continuously dispersing chlorophenothane (DDT) or lindane into the atmosphere of occupied spaces. The facts presented were sufficiently impressive to prompt a number of states and municipalities to adopt measures to control the sale, installation, and use of vaporizing devices.

A supplementary report entitled "Health Problems of Vaporizing and Fumigating Devices for Insecticides" (J.A.M.A. 152: 1132 [July 25] 1953) offered further evidence of the hazards of continuously operating insecticide vapor dispensers and critically examined those devices employing a new procedure, namely the intermittent dispensing of higher concentrations of volatilized insecticide at intervals of every other week. Since the latter procedure involved the rapid volatilization of poison into closed, unoccupied rooms and certain other precautions not unlike those required in fumigation with more familiar chemicals such as cyanide, methyl bromide, and sulfur fumes, it has been referred to as a form of fumigation. Accordingly, specialized vaporizing devices for this type of application have been called insecticide fumigators. The limitations of insecticide fumigators as well as the promotional techniques employed to sell them were revealed in the aforementioned supplementary statement.

Consumer complaints, correspondence with physicians, and a sampling of advertising mediums indicate that many firms marketing these devices continue to make advertising claims that not only

violate the facts but also invite dangerous misuse of the poisons involved. Since the tendency to foster misuse of fumigators and to make unwarranted claims for their safety appears to be increasing, the present report is necessary.

Bernard E. Conley, Secretary
Committee on Pesticides

Abuse of Insecticide Fumigating Devices

The experience of the last several years in the use of devices to volatilize insecticides into the atmosphere of homes and commercial establishments has provided proof of the dangers of excessive exposure to the vapors and fumes of lindane. The problem of what factors are responsible for excessive exposure has not been fully determined. Overliberal use, inadequate ventilation, poorly constructed equipment, and a peculiar sensitivity of those so injured have been cited as causative factors. Accumulating clinical evidence suggests that initial findings on the toxicity of this compound in experimental animals are not entirely convertible to human beings.

Single doses of lindane given orally to experimental animals have been reported to be moderately toxic, whereas inhalation of vapors and fumes is highly toxic. It has been commercially exploited as a comparatively safe insecticide because of minimal storage in fat tissues and fairly prompt elimination from the animal body when ingested in trace amounts. Recently, however, it has been discovered that lindane is stored in significant amounts in the brain and functioning liver of certain species of laboratory animals and that in relatively high doses it may induce prolonged and long-lasting effects on the central nervous system.

The accident record with lindane is not suggestive. Since the chemicals used in fumigating devices are frequently available as tablets or packaged as white crystals, they are liable to accidental misuse. Ingestion of 0.5 gm. of lindane in pellet form produced convulsions in an 18-month-old child. Four chil-

* Reprinted from The Journal of the American Medical Association, October 9, 1954, Vol. 156, p. 607. Copyright, 1954, by American Medical Association.

were also seriously poisoned after drinking unspecified quantities of homemade soft drink sweetened with lindane-contaminated sugar. The case histories follow:

A nationally advertised "Electrically Controlled Bug Killer" was purchased as the result of an advertisement in a recent Sunday issue of a western newspaper. The device and lindane pellets were ordered by telephone and received by mail from a local distributor. The carton containing the vaporizing device and the lindane pellets were then spread on the dining room table. One of the packages of pellets was soon missed, and the mother found her 18-month-old daughter on the floor with it. The child apparently had ingested one and one-half pellets. She was rushed to a nearby first aid station where her stomach was unwashed. The child began to convulse, was taken by ambulance to a local hospital and given oxygen immediately. Within an hour she became completely spastic. Phenobarbital was administered, and she began vomiting, which lasted about one hour. Seven and one-half hours after admission her condition was improved, but she was kept under observation for residual liver and kidney effects. Although the interval between ingestion of the tablets and the onset of symptoms (vomiting, convulsions) is unknown, less than 90 minutes elapsed between ingestion and admission to the hospital. The exact weight of the pellets is not recorded, but similar tablets for like devices weigh 0.33 gm. Since 18-month-old girls weigh 22.5 lb. (10.24 kg.) on the average, it may reasonably be assumed that the child ingested about 48 mg. of lindane per kilogram of body weight. Prompt absorption of the poison appears to have occurred since vomiting and gastric lavage were of limited help in removal of the ingested poison.

Three of four children who drank a homemade soft drink were seized by vomiting and convulsions in less than 6 hours; a fourth child, a boy age 7, was affected 12 hours later. No specific treatment was given, and no further toxic effects were noted. The amount of soft drink consumed and the concentration of lindane present in the drink are not known. Subsequent investigation of the accident elicited the following facts. A sample of lindane packed in unlabeled small cellophane bags had been removed from an insecticide plant by an employee and given to the mother of three of the children who were injured. These bags were inadvertently placed in a sugar container. On the day of the poisoning the mother emptied the bags into the sugar container thinking them to

be sugar. The soft drink was sweetened with the powdered lindane that was mistakenly mixed with the sugar.

Although laboratory and clinical evidence of toxic potentialities of lindane have been widely disseminated, certain promoters of insecticide vaporizers and fumigators continue to represent their appliances as absolutely safe, recognized for the control of disease-bearing insects, and useful any place where an insect problem exists. In spite of representations and actions by the Federal Trade Commission, the National Better Business Bureau, and the Post Office Department, these promoters are using newspaper advertisements, mail order outlets, and direct solicitations to inveigle purchasers with misleading claims. The following case history is taken from recent correspondence received by the Committee on Pesticides:

A housewife, having purchased a vaporizer in a plain cardboard container devoid of advertising, wrote to the firm about the safety of the device for home use. A representative of the firm later called at the woman's home, returned her letter, and stated that, although he intended to write, he thought he would call in person since he happened to be in the area. After describing his product in glowing terms, the representative claimed that it was absolutely safe, effective against 200 kinds of insects, and would hurt nothing that breathes. On questioning, he further advised that accidental ingestion by a small child of the lindane tablets used in the machine would produce no more discomfort than possibly a slight nausea.

It is difficult to imagine that promoters of insecticide vaporizers and fumigators are so callous as to knowingly disregard the dangerous implications of their suggestive advertising. Such actions can only be rationalized on the basis of ignorance of the toxicities of the chemical used. Neither ignorance nor misplaced confidence is justification for questionable promotional tactics.

Insecticidal poisons that are effective because of deliberate continuous pollution of the atmosphere have questionable safety. Their use in this manner is contrary to hygienic standards for safe atmospheric living and working conditions. The Committee wishes not only to reaffirm its opposition to the home use of continuously operating devices (insecticide vaporizers) but also to re-emphasize its warning that extreme care is required in the intermittent use of such equipment promoted as so-called insecticide fumigators.

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in children



"FLAVEDRIN" MILD Antiseptic Decongestant

Sprayed or dropped into the nose, aqueous isotonic Flavedrin provides quick relief and comfort for the patient with a congested running nose. The mucous membrane shrinks, secretion is reduced and ventilation and drainage of accessory sinuses promoted. The antiseptic component is effective against a large number of pathogenic organisms.

"FLAVEDRIN" MILD FOR CHILDREN

Ephedrine hydrochloride 0.3%
Aminacrine hydrochloride BP.. 0.1%

Packaged in $\frac{1}{2}$ oz. bottles with dropper.

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"FLAVEDRIN" FOR ADULTS

Ephedrine hydrochloride 1.0%
Aminacrine hydrochloride BP.. 0.1%

Packaged in 1 oz. bottles with dropper.

ADMINISTRATION: Spray or instil three or four drops into the nostrils every three or four hours.



Charles E. Frosst & Co.
MONTREAL CANADA

Children's Hospital, Winnipeg

Ward Rounds

Edited by Wallace Grant, M.D.

Clinic for Conservation of Hearing and Rehabilitation of Deafened Children

A new clinic is being established at the Children's Hospital, Winnipeg, with the purpose of early recognizing hearing defects in children, conserving and improving hearing, and working toward rehabilitation of the hard-of-hearing child. The group working in the clinic will include three otologists from the Ear, Nose and Throat Department, pediatricians, psychiatrist, and an audiologist and speech therapist. Service in this clinic will be given only to children whose parents cannot afford private care. One of the methods of assessing the hearing of very young children and infants will be available to this clinic (Electroencephalographic method). The clinic staff, although interested in hearing-problems in the child at any age, is especially anxious to see pre-school children where hearing defect is suspected.

This clinic is in no way intended to duplicate services already available in the community, and will co-operate with such services to assist the hard-of-hearing child to achieve in spite of his



handicap. Children referred for study will be seen first in the general medical clinic following which they will be referred to a Tuesday morning otology clinic and subsequently be seen by the audiologist. At the completion of the study of each child there will be a full discussion and review of his condition by the whole group. A report of the investigation will be sent to the referring physician and an effort will be made to give in this report an opinion regarding the present hearing status, and the projected plan of therapy and training for the individual child.

Wallace Grant, M.D., Medical Director,
Out Patient Department, The Children's Hospital.

Accidental Poisonings in Children

The Children's Hospital Casualty Room — 1954

The following tables were displayed in poster form at the Winnipeg Medical Society meeting, the Children's Hospital, January 21st, 1955:

Table I

Accident Prevention
Committee
American Academy
of Pediatrics

	Number	1953
Medications	52 (43%)	43%
Kerosene	0	16
Ant Poison	0	6.5
Rodenticides (May)	3	4.1
Turpentine (March, August, Oct.)	6	3.2
Disinfectants	9	2.9
KmnO ₃ , Iodine 2, Boracic 2, Mercurichrome 2		
Gasoline, (Sept.)	2	2.9
Cleaning Solvents	10	2.9
Insecticides	2	2.0
Lye	3	2.0
Moth Balls & Flakes (June, Aug., Oct.)	6	1.6
Paint Thinner	1	1.4

Bleaching Solutions ...	10	1.2
(Javex 7, Ammonia 3)		
Lead	0	1.2
Paint	1	0.9
Oil of Wintergreen	1	0.8
Poisonous Plants	0	0.8
Miscellaneous	17	6.6
Total	123	100

Table II

Medications — 52

Spring and Fall—Aspirin, 19.
Laxatives, 9 (Exlax (4) NR, Watkins, Rawleighs, Carters, ABS & C).
Barbiturates, 7 (incl. Pro Banthine & Neurotrastenin).
Unknown pills, 5.
Misc., 12 (Friar's Balsam, Sulfadiazine, Saccharine, Diaperene Ointment, Dexedrine, Benzedrine, "Pinworm Pills", Noxema Rubbing Compound, Minard's Liniment, Fer-in-Sol, Codeine cough mixture, Calamine lotion).

Miscellaneous — 17

Hair Shampoo; Lemon Oil, 2; Rubbing Alcohol, 2;
Fuel oil, 3; Pine ozone, 2; 2-4D, 2; "Green car liquid"; Household Cement (CIL); Perfume; Nail Polish remover; Car grease.

Table III

Total — 123 — (Boys 80, Girls 43)

*Average age, 2½ years

Remember! . . .

- 1st Year — Everything in mouth.
- 2nd year — Curiosity.
- 3rd year — Investigates (drawers, closets).
- 1/6 of all accidental poisoning deaths occur in second year.

Table IV

Poisoning Prevention . . .

- Drugs and poisons out of child's reach.
- Poison label on all dangerous drugs.
- Adjust dosage to child.
- Avoid dangerous drugs of questionable value (strychnine).
- Let the **mother** sweeten the drug.
- Give repeated small doses rather than treat for overdosage.
- Careful and specific directions and explanations to parents.
- Prescribe sufficient only for **this** sickness.
- Throw out leftovers — **in sink NOT garbage can.**

Table V

POISONING . . .**Suspect when . . .**

Profound illness in a child is unexplained.
More than one in family taken acutely ill.

Unexplained —

- (1) Diarrhea and vomiting (Arsenic, Phosphorus, Poisonous plants, Cathartics, Infected Food, Nicotine (insecticide), Sodium Fluoride (insecticide)).
- (2) Sudden overwhelming collapse.
- (3) Sudden loss of consciousness (Carbon monoxide, Carbon tetrachloride, Alcohol, Gasoline, Barbiturates, Other sedatives and opiates).
- (4) Coma and acidosis (Aspirin, Methyl salicylate, "Oil of Wintergreen").
- (5) Convulsions (Pyrethrum, Sodium Fluoride, Arsenic, Camphor, Gasoline, Kerosene, Volatile oils, Poisonous plants).
- (6) Cyanosis (Nitrate, Bismuth subnitrate, Alkaloids, Hypertensives, Aniline and nitrobenzene, Bluing, Shoe dye, Diaper marking ink).



for prompt control
of DIARRHEA and DYSENTERY

Arobon with its high efficacy in the management of diarrhea, meets the patient's demand for rapid relief. Because of its high content of pectin, lignin and hemicellulose (22%), Arobon — made from specially processed carob flour—exerts powerful water-binding, toxin-adsorbing and demulcent influences within the bowel. As a result, subjective relief is quickly experienced and stools begin to thicken and consolidate in a matter of hours.

In nonspecific diarrheas, Arobon serves well as the sole medication—in all age groups. In infectious dysenteries when specific

chemotherapeutic or antibiotic agents may be required, it provides valuable adjuvant therapy, reducing the time required for recovery by as much as two-thirds.*

For adults and children, Arobon is simply prepared by stirring the powder into milk. Average adult dose, two level tablespoonsful in 4 oz.; for children, one level tablespoon in 4 oz. For infants, two level teaspoonsful in 4 oz. of skim milk or water and boiled for ½ minute.

*Plowright, T.R.: *The Use of Carob Flour (Arobon) in a Controlled Series of Infant Diarrhea*, *J. Pediat.* 39:16 (July) 1951.

**AN ANTIDIARRHEIC
BY NESTLÉ. COMES
IN 5 OZ. JARS.**

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Social News

Reported by K. Borthwick-Leslie, M.D.

So far I haven't been able to make up my mind, whether I should apologise for, or pass on congratulations to, Gordon for his "Pinch Hitting Poetry" in the December issue. Whichever you think. Thanks Gordon. Ye Virus, or Viri finally won the battle of Ambulation versus Prostration, and the battle field (your social editor) took the count. Oh well, that's one way of keeping out of mischief over the festive season.

Our very favorite '53 "Man of the Year", that photogenic Dr. John A. Hildes, has resigned as Medical Director of the Civic Hospitals, where he will be sadly missed, by Staff and patients, all those he worked so tirelessly with, both acutely ill and convalescent.

Dr. Hildes has taken over a new post, as Director of an Arctic Medical Research Unit, under the Defense Research Board. The research in the Department of Physiology and Internal Medicine of Manitoba Medical School, will include delving into medical aspects of living in the Arctic. We will probably receive our next bulletin re John from his Igloo, steeped in scientific recipes of the compatibility of blubber extracts and esters, etc. All the best John, no matter where your research leads you, we know it will be for the benefit of all.

In the meantime Dr. John Alcock, who has been Assistant Director of the Municipal Hospitals, is carrying on efficiently and well.

Congratulations to Dr. Marie Storrie, Kellwood, Man., graduate of Manitoba Medical College, and formerly associated with the Manitoba Clinic as assistant to Dr. Beamish. Dr. Storrie, now of Boston, Mass., has received her degree as a certified Specialist in Internal Medicine, with Royal College of Physicians and Surgeons of Canada. So far my grapevine has not reported as to Marie's plans.

Dr. and Mrs. Charles Burns Jr. sailed from New York aboard the Franconia over the festive season for England. Dr. Burns, son of Dr. and Mrs. Charles Burns of Winnipeg, is a graduate of Manitoba Medical College, 1951. He has been doing post graduate work at the Toronto General Hospital for two years. Recently he was awarded a John S. McEachern Memorial Fellowship of \$1,800.00. The announcement was made by R. Buckerfield, president of the Canadian Cancer Society. Dr. Burns will use the award for training in Thoracic Surgery in Bristol, England.

Dr. and Mrs. David Peterkin and son Bernard of Langton, N.D. spent New Year's weekend with Dr. Peterkin's mother, Mrs. M. L. Peterkin.

Does one offer congratulations or sympathy to Dr. S. Vaisrub, who has been appointed editor of the Manitoba Medical Review, the official publication of the Manitoba Medical Association? Dr. Vaisrub succeeds the late Dr. J. C. Hossack, and although that is a tough precedent to compete with I am sure our new editor will be a success. I hear the selection of associate Editors is about almost complete and they will probably be announced next issue.

Dr. and Mrs. John A. Turner returned to Winnipeg over the festive season, guests of Mrs. Turner's parents, Mr. and Mrs. J. F. McPhedron. Dr. Turner has been doing Research work at Sunnybrook Hospital, Toronto.

Dr. and Mrs. E. L. Moyer of Vernon, B.C. spent a week in town renewing old friendships, enroute to New York, where they will holiday.

Dr. and Mrs. W. M. Musgrove, 78 Assiniboine Drive announce the engagement of their daughter Marguerite Merle (Peggy) to F/L Douglas Craig Danard, son of Mr. and Mrs. M. B. Danard, South Burnaby, B.C. The wedding is to take place 2.30 p.m. Feb. 5, 1955 in the R.C.A.F. Protestant Chapel, Winnipeg. The reception to be held in the Officers' Mess, R.C.A.F.

After being very subdued in November and early December the Medical Stork suddenly became inspired over the festive season:

Dr. and Mrs. Wm. S. Neal, Windermere Ave., Fort Garry happily announce the arrival on Dec. 25, 1954, Happy Xmas, of their baby daughter.

Dr. and Mrs. M. Alan Hayward announce the birth of Patricia Diane, December 27th, sister for Michael and Catharine.

Dr. and Mrs. Jan Hoogstraten, 35 Riverside Drive, Fort Garry, announce the birth of their son on December 31st. Trying hard for all that loot, weren't you Hoogey?

January 4, 1955 Dr. and Mrs. J. W. O'Toole received a belated New Year's gift, Margaret Anne, sister for Kathy, Denny and Pat! I seem to remember reading that the new "H" bombs are being produced in much smaller, neater containers. Wonder, could there be any comparison to the human male?

Dr. and Mrs. R. E. Lee are happy to announce the birth of Shannon Miriam, sister for Bobby, on January 4, 1955.

Dr. and Mrs. M. F. Grapko announce the arrival of Deborah Anne, Dec. 31, 1955.

Dr. and Mrs. Arnold Rogers, on Jan. 3, 1955 presented Susan Leslie with a baby sister.

Dr. and Mrs. Maurice Gyde, St. Pierre, Man., announce the birth of Laurie Anne Marie, on January 6, 1955.

Dr. and Mrs. James Hendry of Brandon, Man., announce the arrival of Heather Lee, Jan. 4, 1955.

Dr. and Mrs. B. B. Jakobson of St. James announce the birth of Thora Louise, a sister for Kristine and Gestur.

Doctors Gordon and Patricia Cumming (nee Dr. P. McKnight) announce the arrival of Joanne Patricia, a sister for Bill, in the Toronto General Hospital on January 23, 1955.



"Premarin" for the climacteric syndrome

The "sense of well-being", so consistently identified with "Premarin" in the literature, may be attributed to the fact that "Premarin" is not just a single conjugate, but the complete equine estrogen-complex as it naturally occurs. In "Premarin", all the components of this estrogen-complex are meticulously preserved in the form in which they are excreted — as water-soluble conjugates.

"Premarin" [conjugated estrogenic substances (equine)]
has no odor . . . imparts no odor

"Premarin" Tablets
"Premarin" with Methyltestosterone
"Premarin" with Phenobarbital

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Editorial

 S. Vaisrub, M.D., M.R.C.P. (Lond.), F.R.C.P. (C.), F.A.C.P.

Distant Fields

Aesculapius has never been a jealous god. He uttered no threats against, nor invoked curses upon those of his devotees who chose to follow other gods or worship at other shrines. His was the way of tolerance and understanding.

In keeping with this spirit has been the attitude of the medical profession to those of its members, who neglected the craft by cultivating a hobby, or scorned it altogether by choosing another. In contrast to armies that court martial their deserters, and states that execute their traitors, Medicine offers nothing but respect and admiration to those who defect from her ranks. Whence this curious attitude? Why do we not vituperate, derogate or investigate those who choose to bask in other sunshines? Is it because, as the cynics would have us believe, we suffer from a sense of inferiority, and are only too happy to be able to prove to ourselves, and demonstrate to others that we are not totally devoid of brains? Or is it because of a feeling of admiration tinged with envy for those who dared to forego security and position for the sake of adventure or pursuit of a calling? There are moments, indeed, when we lean heavily toward the latter explanation, moments when we fall prey to a sort of medical claustrophobia, a feeling of being fenced in by patients, families, telephones, meetings, etc. It is then, that distant fields begin to look so very green, and the men, who wandered off in their direction, so admirably daring. Thus may a faithful husband married to a nagging shrew think enviously of a neighbor who ran off with a glamorous mistress to a land of sunshine. Percussion may be a pleasure, auscultation a source of delight, and a sigmoidoscopic good clean fun, but do they not at times suffer by comparison with the joy of artistic creation: the painting of a picture, the writing of a book, the execution of a perfect crime?

These and many other reflections come to our minds as we read the presidential address by Dr. D. Swartz, published in the December '54 issue of the Journal. In this paper, Dr. Swartz pays tribute to doctors who distinguished themselves in other fields. He speaks of them in glowing terms, with a sense of appreciation of their contribution to human progress. In this he follows the traditional path.

Dr. Swartz mentions many famous names. In fact, so extensive is the list that to many of us it comes as a surprise. We all know that some doctors attained eminence in other fields of endeavor. We heard of Bannister who won the British Empire Games Mile Race; we read about Knox and Crippen who attained notoriety by their gruesome

crimes; we read A. J. Cronin. But we were not quite prepared for the galaxy of brilliant men that was displayed to us — Clemenceau, Schiller, Oliver Wendell Holmes, to mention but a few. This indeed is a source of pride. These men were originally doctors, and the assumption that knowledge of Medicine has helped them in their creative work is not entirely unwarranted.

The number is impressive indeed. History appears to be studded with names of doctors who became famous by dint of excellence in fields other than Medicine. Will it always be thus? Will new Rabelais, Goethes and Chekhovs rise from our ranks? It is doubtful, in fact, quite unlikely. As time goes on Medicine becomes more difficult and demanding. Too many years are spent in preparation and perfection of the craft to have time and energy left for other pursuits. There will also be less temptation for change if present trends in Medicine continue. Medicine is growing both in depth and in area. It embraces spheres of activity, which not too long ago were considered beyond its scope. Various talents and diverse temperaments will be able to find a niche in its structure. There will be outlets for the creativity of the planner, the administrator, the reformer, the slave of the spirit of quest, and the master of the pen.

Thus the curious and fascinating phenomenon of doctors refusing to stay put may soon come to an end. Those who are saddened by this prospect may be cheered by another, that of a migration taking place in the opposite direction, for, as the horizons of Medicine expand, men of other walks of life may be tempted to enter it. Physicists, chemists, mathematicians, engineers, lawyers, writers and philosophers may find in Medicine interest and self-expression. Their contribution to Medicine may yet form a topic for a presidential address at some future date.

Manitoba's Medical Men XIII. Rehabilitation

The Provincial Co-ordinator of Rehabilitation was a guest of the executive of the Manitoba Medical Association at the last executive meeting, and he was glad to have the opportunity of meeting some of the members of the Medical Association in order to give them a brief outline of the efforts that are being made to co-ordinate all the local social agencies that are engaged in rehabilitation in the Province of Manitoba.

A great deal of impetus has been given to rehabilitation this year because the President of the Canadian Medical Association has shown a marked interest in this phase of medicine and has had a great deal of experience in his own province of British Columbia.

There are substantial government grants available both on the provincial and federal levels. These will be used for every phase of rehabilitation. The medical aspect of this work will be, to a large extent, under the supervision of doctors. The results of rehabilitation already obtained across Canada have been very gratifying.

There are many case records in which crippled people, both adults and children, have been found in pitiful conditions and after a programme of rehabilitation, have been restored to society and have been able to earn their own living and thus restore their self-respect.

The Executive of the Manitoba Medical Association appointed a committee to study the problem of rehabilitation in this province, and to work with the Rehabilitation Board. Similar committees are in operation or are being formed in most of the other provinces.

The doctors in the Province of Manitoba have had a great deal of experience in this field of medicine, and there is no doubt they will give their co-operation to this worth-while endeavor.

L. A. Sigurdson, M.D.

Letter to the Editor

Krebiozen

January 3, 1955.

The Editor of The Manitoba Medical Review.
Dear Sir:

Every doctor in Manitoba recently received a brochure containing glowing accounts of the good results of Krebiozen treatment of patients with cancer.

Having recently returned from three and one-half years training in Memorial Center for Cancer and Allied Diseases, New York City, one is particularly interested in cancer therapy—in all its modalities. The Sloan-Kettering Research Unit of Memorial Center and the clinical research departments of Memorial Hospital itself are continuously investigating new drugs, new viruses and new hormones in cancer therapy. Because of these facts we wrote on November 17th, 1954, to Dr. Henry Randall, clinical director of Memorial Center, also to Dr. Charles Cameron, director of the American Cancer Society — for additional information on Krebiozen. We have received replies from both these sources and learn that every doctor in the United States received this same brochure.

Our attention is redirected to the findings of the Council on Pharmacy and Chemistry of the American Medical Association which published "A Status Report on Krebiozen." Journal of The American Medical Association, October 27, 1951, Vol. 147, No. 9, page 864. The report is comprehensive and

covers a series of 100 consecutive patients treated with the product. No evidence of objective improvement could be attributed to its use and subjective improvement was not reported in a significant number of cases.

The American Cancer Society and Memorial Center both report that they know of no evidence which contradicts these findings of American Medical Association Council on Pharmacy and Chemistry.

We hope this information will enable all of us to maintain our perspective in management of patients under our care.

Yours respectfully,
Robert L. Cooke, M.D.,
F.R.C.S., England and Canada
Dipl. of Am. Bd. of Surg.

McNulty Clinic Limited

264 Edmonton Street
Winnipeg

January 11, 1955

**Re: The Workmen's Compensation Board
Fee Schedule**

Gentlemen:

On September 1, 1952, an agreement was signed by your Committee and The Workmen's Compensation Board, in relation to procedures and fees to be governed by, and charged to The Workmen's Compensation Board. This agreement will expire on September 1, 1955.

This agreement, which was lived up to by your Association and The Workmen's Compensation Board, has been most satisfactory. There have been no complaints from The Workmen's Compensation Board or from the Manitoba Medical Association members.

It is time now, to decide whether to continue the present arrangement or to make changes. It is preferable, that should any changes be required, from any member, that he write in immediate writing either to Dr. M. T. Macfarland, the Executive Secretary of the Manitoba Medical Association, or to the writer at the M.M.A. address. Letters should be in the hands of the Association **not later than January 1st, 1955.**

Should there be any changes contemplated in these reports, the writer will immediately form your Committee and begin negotiations. For your information.

I remain,

Yours truly,
P. H. McNULTY, M.D.,
Chairman,
The Workmen's Compensation Board
Negotiating Committee, M.M.A.

Future Events

Annual Refresher Course

April 5, 6, 7, 1955

The Annual Refresher Course sponsored by the Committee on Post Graduate Studies, Faculty of Medicine, University of Manitoba, will be held on April 5th, 6th and 7th, following the Symposium. Full details of the programme will be published later and sent to all physicians.

There will be a registration fee of \$20.00 to include the cost of the annual dinner. Please send your registration notices to:

Committee on Post-Graduate Studies,
Medical College,
Bannatyne & Emily Sts.,
Winnipeg, Manitoba.

Symposium on "Modern Trends in Treatment"

On Monday, April 4, at the Royal Alexandra Hotel, in Winnipeg, the Manitoba Medical Association and the Committee for Postgraduate Studies, Faculty of Medicine, University of Manitoba, together with Lederle Laboratories, will sponsor a symposium on "Modern Trends in Treatment." The topics and speakers will be as follows:

Problems in the Management of Juvenile Diabetes—A. L. Chute, M.D., University of Toronto.

Modern Treatment of Hypertension—Kenneth Evelyn, M.D., University of British Columbia.

Chemotherapy of Malignant Disease—O. H. Pearson, M.D., Sloan-Kettering Institute for Cancer Research, New York.

Recent Advancements in Cardiac Surgery—Charles B. Ripstein, M.D., Albert Einstein College of Medicine, Yeshiva University, New York.

Recent Advancements in the Treatment of Allergic Disorders—Bram Rose, M.D., McGill University.

Indications for Hysterectomy—Richard W. Linde, Johns Hopkins University, Baltimore.

All interested physicians and their wives are invited to this meeting. There will be no registration fee, and at noon physicians and their wives will be guests at luncheon. At 5:30 p.m. there will be a reception.

Winnipeg Medical Society

The Winnipeg Medical Society is pleased to announce that the February meeting on the 18th of February will be addressed by Doctor Oswald Hall, Professor of Sociology, McGill University. Professor Hall, an authority on the economic sociological aspects of Medical practice will speak on "What the Patient Expects From His Doctor." This meeting is being looked forward to with a great deal of interest.

Doctors' Annual Medical

VALENTINE DINNER and DANCE

Entertainment - Cocktails

Saturday, February 12th
6.30 p.m.

Royal Alexandra Hotel
Crystal Ball Room - Banquet Hall

\$12.00 per Couple

Sponsored by

The General Practitioners' Association of Manitoba

Dr. Jack Swan
Chairman, Social Committee

The William Gibson Research Scholarship for Medical Women

Miss Maud Margaret Gibson has placed in the hands of the Royal Society of Medicine a sum of money to provide a Scholarship in memory of her father, the late Mr. William Gibson of Melbourne, Australia. The Scholarship is awarded from time to time by the Society to qualified medical women who are subjects of the British Empire; and is tenable for a period of two years, but may in special circumstances be extended to a third year. The next award will be made in July, 1955, to date from October, 1955.

In choosing a Scholar the Society will be guided in its choice either by research work already done by her, or by research work which she contemplates. The Scholar shall be free to travel at her own will for the purpose of the research she has undertaken.

There is no competitive examination, nor need a thesis or other work for publication or otherwise, be submitted. The Society has power at any time to terminate the Grant if it has reason to be dissatisfied with the work or conduct of the Scholar.

Applications should be accompanied by a statement of professional training, degrees or diploma, and of appointments, together with a schedule of the proposed research. Applications must be accompanied by testimonials, one as to academical or professional status, and one as to general character. Envelopes containing applications, etc., should be marked "William Gibson Research Scholarship" and should be addressed to Mr. R. T. Hewitt, Secretary, Royal Society of Medicine, 1, Wimpole Street, London, W. 1, England, and be received not later than 1st June, 1955.

The approximate value of the Scholarship will be £200 per annum.

Manitoba Medical Association

Canadian Medical Association, Manitoba Division

Executive Offices: 604 Medical Arts Building, Winnipeg, Man.

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Manitoba Medical Review

Editorial and Business Offices: 604 Medical Arts Building, Winnipeg

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Manitoba Medical Association

Presidential Address

Delivered at the Annual Meeting of the Manitoba Medical Association, October 12th, 1954, by Dr. Walter Tisdale, Retiring President

A Doctor Reads

A medical man should be a man highly trained in his own field of service, but to give the best to his patients and his profession and get the greatest value out of life he must possess a background of general knowledge and culture. The most practical and pleasant way to acquire this education is by methodical reading in a wide and varied field.

A medical man's first duty to his patients and to himself is to keep abreast of the latest advances in his profession by a disciplined system of reading; medical magazines, books and reviews, all of which I take for granted.

By what method then may a medical man plan a program of continuous general and cultural education?

First, he must read a daily newspaper and a few current magazines to understand the every day affairs of life; its politics, sport and above all in our day, a knowledge of international affairs.

Read book reviews. This is the easiest way to keep in touch with what is being published. Good book reviews are contained in the Saturday edition of your local daily and in such magazines as Macleans, Saturday Night and the Atlantic Monthly. To those who aspire to go farther afield the weekly book review sections of the New York Times or the London Times are very fine. Finally, I quote from Osler, "Books are tools, doctors are craftsmen, and so truly as one can measure the development of any particular handicraft by variety and complexity of tools so we have no better means of judging the intelligence of a profession than by its general collection of books."

As you mature your character matures and at the same time your choice of books begins to assume a pattern that is dictated by your choice of reading. In other words, your library begins to acquire a personality. I have come to judge people and their homes more by the pictures on the walls and the books on the shelves than by the size of the house or the number of doors on the garage.

For these reasons I do not advise joining a book club. You are thereby regimented and the titles are another's choice and not your own. Buy your books if possible; most books that are worth reading are worth owning. They are valuable for re-reading and for reference; and what greater

favor can you do a friend than to lend him one of your favorites? This may require some sacrifice at first, but remember the Chinese proverb, "If you have two bowls of rice sell one and buy a beautiful flower that thereby you may nourish your character as well as your body."

However, it is only when you become a real reader of books that a new vista may be opened by that magic key of the written word. In the language of Sir James Frazer as he takes us on that journey of discovery in "The Golden Bough"; "Perhaps the survey of a wider field may lead us to think that they contain in germ the solution of our problems. To that wider field we must now address ourselves. It will be long and laborious, but may possess something of the interest and charm of a voyage of discovery, in which we shall visit foreign lands, with strange peoples and strange customs. The wind is in the shrouds; we shake out the sails to it and leave the coast of our own land behind us for a time."

You have the whole universe before you as you plan your voyage but few have the time or the means to taste of it all. Let us consider then a few of the tours that are available. May I have your company on my last year's voyage of pleasure and discovery in the literary world?

Every year a few good novels appear, probably ten on the average that you would enjoy reading. Let us read "The Doctors" just published as "The Men in White," by Andre Soubiron, a French doctor. His medical student, Jean N'erac, takes us back to our student days. To that self sacrificing mother who, when Jean hesitated to take her hard earned savings replied: "But you are giving more, you are giving all your youth when you choose medicine as your career. While other young men are earning money, having leisure and establishing homes, you are only paying out and working hard." Much the same idea as John Hunter phrased some two hundred years ago, "By the time a doctor can afford to buy bread he has no teeth left with which to eat it." I do not know of any book that lays such emphasis on pain and its relief. He deplores our attitude to pain and blames, "The very well known phenomena, scientific curiosity and technical curiosity, that have anaesthetized my sensitivity."

Or again, one could go on a whaling expedition into the Antarctic with Dr. R. B. Robertson. This psychiatrist from Edinburgh is undoubtedly a rolling stone. He signed up as a Doctor on a whaling expedition from Scotland. It is well worth reading and it is not what one would expect from a man of his specialty. Melville in "Moby Dick" gives the psychology of whaling

before Freud was heard of but Robertson gives you whales and whalers in the raw; from the crude and cruel method of killing the animal by an exploding harpoon to the details of processing the huge carcass on the factory ship. A typical description and character study can be given by quoting the chief engineer in action. Two catchers had collided and both were damaged; they contacted old Burnett by radio, "Put those two hysterical gunmen off the blower and let me talk to the engineers and we'll maybe get some sense from them." After getting an exact verbal picture of the damage done, he gave his terse orders, "Now you will both do this: you will empty your forward fuel tanks, pump the oil into the sea and to hell with it and that will trim you by the stern enough to raise your cracked plates out of the water. If you are there when we reach you, I'll know you are fair to middlin' engineers. If you are not there, I'll know you've learned nothing I ever tried to teach you and you deserve to drown." When he arrived he inspected both and then, "We'll do it here McDonald. You hand the factory over to Sinclair and you'll repair the two catchers well enough to finish the season." With that the old man seemed to lose all interest in the emergency and went off to his Bible and his whiskey bottle in his cabin aft. What a lesson in organization and delegation of authority. I wonder if some of our over worked and harassed heads of clinics should not follow "Old Burnett's" example. I fear the Goddess of our profession is too exacting a mistress to allow it.

Again you might take a trip into the unknown with Aldous Huxley. In his recent book, "The Doors of Perception," he tells of his experience after taking four-tenths of a gramme of Mescaline, the Mexican drug, probably allied to loco weed. After perusing a great deal of verbiage regarding his perception of art, etc., he finally comes to the practical conclusion that man requires some release from the anxieties and perplexities of modern life. He thinks that Mescaline does this better than alcohol, tobacco or opium. He describes it as allowing us to "Take an occasional trip through some chemical door in the wall into the world of transcendental experience."

The physical basis of life, by J. D. Bernal, F.R.S., takes you far into the past to the beginning of life on our planet. Life itself he hesitates to try to define, but quotes Maleschott's classic phrase, "It is woven out of air by light." He makes two very interesting statements which I shall quote, (1) "The introduction of radio active tracers is likely so to revolutionize the unravelling of reactions in chemistry as to make what we think we know now obsolete in the matter of a few years." (2) "We are certainly now in a Galilean phase of observational biology owing to the advent of the electron microscope."

A trip into the future with Charles G. Darwin can be had by reading his, "The Next Million Years." He is a physicist and the grandson of the great Charles. He first reminds us of the four great revolutions of the past. (He defines a revolution as an irreversible change in the way of life).

These revolutions are:

7. The discovery of fire.
2. Agriculture.
3. Living in large cities (civilization).
4. Science.

He speculates on what the fifth will be. His answer is that one future revolution is nearly a certainty, while there may be others. The fifth revolution will come when we have spent the stores of coal and oil that have been accumulating in the earth during hundreds of millions of years. This will probably be within the next thousand years—a much shorter period than between other revolutions. After all, man has altered his way of life considerably when after living for years on his capital, he suddenly finds he has to earn any money he wants to spend. Another statement he makes is that it takes millions of years to develop a new species. This is a sobering thought when we hear that since the white man came to North America, twenty species of wild life have been exterminated.

He is not very optimistic about the future of the race and I quote three pertinent remarks:

1. The idea of lavishing care on the unfit is a poor way to improve our race.
2. A lower value will be placed on human life and future wars will set records for mass killing.
3. He is probably thinking of our modern ideologies when he remarks: "For every man who is willing to die for his faith, there are ten who are willing to kill for their faith."

Of my past years reading, Oceanography has interested me most. Three of the best books are "The Sea Around Us," by Rachel Carson; "The Story of the Oceans," by Douglas, and "Westward Ho With the Albatross," by the Swedish oceanographer, Professor Hans Pettersson.

Due mainly to recent scientific discoveries such as radar, they have plotted the contour lines of great ocean mountain ranges, marine rivers and islands, side which the Mississippi is a village stream, and ocean depths of undreamed of proportions. But even more interesting than their discoveries in geology are their contributions to biology.

Rachel Carson pictures beautifully that continuous "snowfall" over the millions of years made up of the plankton on the ocean surface, the creatures from the microscopic to the huge mammals whose bodies have made up that great carpet called the ocean floor. At times these have been added to by a huge man made Titan or a Hood which are soon returned to the

native elements by the processes of nature. But when one of Nature's leviathans is added to this deposit, a shark or a whale, its teeth or its ear bone may be found embedded in rock millions of years later.

What more logic approach could there be to our modern science of electrolyte balance, intravenous therapy and blood transfusion, than to read what Rachel Carson said about the beginning of these things.

"When they went ashore the animals that took up a land life carried with them a part of the sea in their bodies, a heritage which they passed on to their children and which even today links each land animal with its origin in the ancient sea. Fish, amphibian and reptile, warm-blooded bird and mammal—each of us carries in our veins a salty stream in which the elements sodium, potassium and calcium are combined in almost the same proportions as in sea water. This is our inheritance from the day, untold millions of years ago, when a remote ancestor, having progressed from the one-celled to the many-celled stage, first developed a circulatory system in which the fluid was merely the water of the sea. In the same way, our lime-hardened skeletons are a heritage from the calcium-rich ocean of Cambrian time. Even the protoplasm that streams within each cell of our bodies has the chemical structure impressed upon all living matter when the first simple creatures were brought forth in the ancient sea. And, as life itself began in the sea, so each of us begins his individual life in a miniature ocean within his mother's womb, and in the stages of his embryonic development repeats the steps by which his race evolved, from gill-breathing inhabitants of a water world to creatures able to live on land."

Douglas is at his best as a biologist: "Lowly though the Turbellarian (an unsegmented flat worm) may seem to us, when we compare it with Protozoa Jelly fish, etc., we see that its appearance marked the attainment of dizzy evolutionary heights. It was the first animal developed from three layers of cell and hence had a head, a muscular and an elimination system." In the same chapter he describes the India rubber worm as the first animal to have an excretory system with an anus. He also describes how on a very small isolated island in the South Pacific has been discovered a lizard like creature with a functioning pineal or third eye, the only known existing type. And, lest the spirit of mortal be proud he prefaces his chapter on, "Our cousins the Fishes," by the following; "How great our debt to the fish." "By developing a backbone, he took the long evolutionary step which led to the mammalian spinal column—the apparatus making it possible for man to stand, walk, sit erect. Without this backbone the skull of neither

man nor fish could have evolved in its present form. Without it, man could not have achieved the special development of the brain which gives him mastery—at least for the time being—over other animals."

This debt Nature acknowledges in human gestation, for in the womb, the embryo of man goes through a fish stage during which gill slits are characteristic. In later embryonic stages these slits vanish except for one pair which form the Eustachian tubes connecting middle ear and throat.

In classifying the great vertebrate groups, zoologists regard the amphibious frogs, toads, newts and salamanders as the most archaic, and birds—conquerors of the air, land and water—as the most highly evolved. We mammals have the meagre satisfaction of being classed above the amphibia, fishes and reptiles, but as somewhat less advanced in evolution than the feathered clan.

"Scientists deflate human ego further by classifying all mammals, whether statesman or poodle, aviatrix or mouse, industrial tycoon or dolphin, as subdivisions of but a single order; whereas three of the great vertebrate orders are allotted to fish."

Professor Hans Pettersson of Sweden tells of his love for the sea. "Our people for generations have lived by the sea—my father was a great oceanographer. Besides the sea covers 70% of the earth's surface and is the home of most of its animal life." He describes rather poetically how the record of great earthquakes are to be found on the ocean floor—"the work of the fiery God Vulcan whose records are kept by his rival the Sea God Neptune."

The Swedes developed a sea boring machine made of Swedish steel but anchored by steel cables from Birmingham. At one place they let this machine down to a depth of twenty-six thousand feet. They first tested the thickness of the ocean floor by depth charges to see if it was thick enough to be worth boring.

A few facts from his book may be condensed thus:

In 1872 the Challenger got borings, at a shallow depth, of one to two feet.

In 1900 a German expedition secured specimens up to three feet.

In 1930 an American expedition got ten foot borings.

The Albatross in 1951-52 by its depth core machine, at a depth of 4,300 feet, got a core seventy feet long, giving its strata a history of thirty million years.

Our understanding of our fellow man is very imperfect unless we have a knowledge of Archaeology. A very suitable and interesting book on this subject is "Gods, Graves, and Scholars," by G. W. Geram. One only regrets

that man has left so imperfect an account of only his last five or six thousand years.

Geology has kept a much better history. For although no man was there to witness this cosmic birth, the stars and the moon and the rocks were there. Our earth has kept a record written on rocks and in rock from its birth three thousand million years ago when she was torn out of the body of her mother the Sun by a stupendous cosmic catastrophe due to a close encounter with a vagrant star—the unknown father of a whole family of planets. It has kept pictures in rock of the life that has developed in the past three hundred million years. It is possible now to discover the age of the rocks that compose the crust of the earth by measuring the rate of decay of the radio-active materials they contain. Besides this record, our most ancient histories record only one heart beat in the story of life. We in Manitoba should be intelligent geologists. Our vacation country in the Whiteshell and Kenora areas is a geologist's paradise. Manitoba contains the oldest known rock formation on the Earth's surface. These are about 2.3 billion years old. Two recent books on geology are: "Man, Time and Fossils," by Ruth Moore, and "Rock and Their Stories," by Fenton.

One of the most interesting facts is that recently Central America has yielded treasures of ancient history and art second only to Egypt. These discoveries have opened up new eras of controversy regarding the origin of this civilization. Was it Asian in origin as usually believed or was it Atlantean.

Archeology is only a first page in the study of history. Two of the best modern text books on history are: "A Short History of the World," by Wells, and Toynbee's "A Study of History." Toynbee has now completed twelve volumes but they can be procured in one condensed volume—and he is still writing—for history is being made every day. This was brought vividly to my attention recently when I read "The Big Change," by Fredrick Lewis Allen. It impressed me with the fact that probably more history had been made in the past fifty years, particularly in social progress, than had been made in the past five hundred years.

The study of nature can be most fascinating of avocations once that fair siren has lured you from the stern path of duty. You will follow Gilbert White, the English curate of 1720-1793, not to church, but to the field where he established his reputation as the greatest naturalist of his time, or of all time. You would read the story of how he disproved the long held theory that birds hibernate and how he proved the theory of migration.

The story of Andre Fabre, the French observer and entomologist, living with his large family on a few starved acres, but to his keen eyes it

grew such a crop of insect life as no man had seen before. By sheer brilliance of observation and without a microscope until near the end of his career, he learned more about the insect world than all the great entomologists had known and became a professor in the University of Paris. One could talk for hours on this charming subject but I shall mention only a few of the many names that are outstanding.

Donald Culross Peattie, in his "Road of the Naturalist"; Edwin Way Teale, Roderick Haig-Brown of Vancouver Island; Peter Scott, in his beautiful books on wildfowl illustrated by his own paintings. "The Triumph of the Tree," by Collis; "The Web of Life," a study in ecology by Storer. Then, of course, there was Thompson Seton, one of the greatest and a Manitoba product. Lest you might think that such reading would not make of you a more intelligent and broad minded medical man, let me tell you one statistic from ten thousand.

From time immemorial the heart was considered as vital. A breath of air or a touch of steel to that organ and life at once ceased. But some three hundred years ago two hunters of England were dressing out a stag they had killed. On the heart muscle they found a healed scar. The heart had been lacerated months or years before by the thrust of a spear. The miracle however occurred. Nature had healed it and the animal had lived. These hunters realized the importance of what they had seen and told a surgeon friend who grasped its importance. The first fact was established that laid the foundation for modern heart surgery.

The best of recent books on astronomy is "The Nature of the Universe," by Fred Hoyle the brilliant young astronomist of Cambridge. This book is composed of the five lectures he gave on the BBC in 1950 and later given over the C.B.C. It is printed in a small book, very readable, and bridges the gap from Jeans to our day on the known facts and theories of modern astronomy.

On religion, its history and development, there are many books written both old and new: from Frazer's "Golden Bough" to the current year's production, "Humanism The Next Step." A book entitled "The Human Situation" is composed of the Gifford lectures by W. Macneil Dixon—a wise clever philosophy of life—written in charming English with an abundance of brilliant quotations. However, when the end is reached one might end with Omar Khayam, "I came out by the same door where in I went."

We cannot fully understand modern man and modern medicine if we have not followed man's progress in trying to understand his environment and adjusting himself to that environment. This leads us from the most primitive Taboo, through superstition, magic, mythology, religion and science. Do not scoff at these first feeble stages

They were as earnest as ours are now. To the Mother who saw her child struck down by lightning or by a wild beast, the problem was just as tragic and desperate as that of the modern Mother who sees her child stricken by Polio. Both have striven to understand the cause and ward off the effect. This introduces us to the subject of folk medicine. We should respect it, study it, and derive all the benefit we can from it. The next time a frantic young mother calls you at two a.m., do not attribute it to lack of logic or ill consideration for you. It is more likely the sudden enlivening of a long dormant instinct of a primitive mother to whom the darkness and night were the time of danger to the child from disease or the wild animals. "The terror that walketh by night."

There seems to be a growing tendency for writers to be more frank about their religious views. Prof. Pettersson, probably influenced by his environment while travelling across Egypt, gives a very fine account of his own philosophy. Fred Hoyle expressed his views so frankly that the question was taken up in Parliament.

A good library should contain a few volumes of poetry. It is only reading to music and makes memory easier. Much pleasure and profit can be had by memorizing poems and then when on trips alone you can repeat and see if you have learned well. Some tough scientist will interject that your time would be better employed memorizing the branches of the aorta or the names and relations of the carpal bones. But when this stern fellow is looking the other way, have a little flirtation with the fair Goddess of verse.

This is what Shelley says: "Poetry turns all things to loveliness; it exalts the beauty of that which is most beautiful, and it adds beauty to that which is most deformed; it marries exultation and horror, grief and pleasure, eternity and change; it subdues to union, under its light yoke, all irreconcilable things. It transmutes all that it touches, and every form moving within the radiance of its presence is changed by wondrous sympathy to an incarnation of the spirit by which it breathes; its secret alchemy turns to potable gold the poisonous waters which flow from death through life; it strips the veil of familiarity from the world, and lays bare the naked and sleeping beauty, which is the spirit of its forms."

One of the most satisfactory of modern anthologies is that by E. Markham. A six volume set entitled "Anthology of the World's Best Poems." This makes a good foundation and reference library on world poetry.

A trip to Edinburgh with Douglas Guthrie as guide would acquaint you with probably one of the greatest epochs in scientific achievement. You would not only learn of the character, the methods and achievements of Lister but you would meet a great many interesting people enroute. At his home you would meet his father-in-law the great

Syme of whom it is said that "He never wasted a word, never wasted a drop of ink and never wasted a drop of his patient's blood." What a rebuke for us in our day when instead of the patient being protected from every second of waste time, exposure or traumatism to those precious delicate tissues, some of our operating rooms sound like a broadcasting centre and blood is wasted because a blood bank is around the corner.

You may also be fortunate enough to see Doctor Brown, the author of "Rab and His Friends." Syme was the Doctor in this story. You may recognize the humanism that appeared to desert medicine in an era of ultra science but is now reappearing in our modern methods of teaching. In a recent book, "My Several Worlds" by Pearl Buck, is given the same description from a lay point of view. Quote, "I deplore the increasing lack of trust in the idealism of the professional, especially in the medical field. The lay person is so helpless when he falls ill, so pathetic in his need of confidence. His wretched body is all he possesses, and he clings to it in the face of death and extinction. I understand of course, that the physician cannot allow himself to be torn daily by emotions or he could not do his work. Yet, I believe the professional is mistaken when he declares that he must be detached, must be removed from personal interest, must be unsharing and remote, in order that he be not destroyed. I think he destroys himself by his very emotional detachment. If I am to commit my body to a man or woman to cut up while I am unconscious, be sure that I shall search not only for the skillful surgeon, but for the surgeon who is first a feeling human being."

I am sure Henley, the author and poet would be a privileged patient in Lister's garden. You would see him limping about the grounds or sitting in some quiet corner with pencil and paper. And if you glanced over his shoulder you would see verses, some serious and many facetious about hospitals, doctors and nurses. And one day, if you were fortunate, you would see him in deep thought and on the page you would read his classic "Invictus."

Out of the night that covers me,
Black as the pit from pole to pole,
I thank whatever Gods may be
For my unconquerable soul.

In the fell clutch of circumstance
I have not winced nor cried aloud.
Under the bludgeonings of chance
My head is bloody, but unbowed.

It matters not how strait the gate,
How charged with punishment the scroll,
I am the master of my fate;
I am the captain of my soul.

You might think, as many have done, that the words were boastful and the style arrogant. But you will have a new appreciation after you read

his case history in the old files of the infirmary, Henley had a foot amputated in Glasgow, his other leg became diseased and they were preparing to amputate it — followed by what everyone knew would be a fifty percent chance of death or at least a dreadful convalescence. He heard of Lister and went to Edinburgh, Lister saved his leg and probably his life.

If the winds are favorable you may follow Lister to France and there meet Louis Pasteur of whom Osler said, "He was the most perfect man who has ever entered the kingdom of science." And Pasteur's son-in-law, Vallery Radot will tell you one of the greatest stories of human history — the humbly born boy, the parents ambition, and his courage and determination. Of his first recognition for his work on lactic acid crystals to that great day of triumph for science and humanity, July 6th, 1885, when he injected the Alsatian Boy Joseph Meister with his anti-rabies serum.

If fortune favors, you may follow Lister into the great hall of the Sorbonne in 1892. There you would see a brilliant assembly of the world's greatest scientists, two thousand of them, who had come to do honor to Louis Pasteur. You would see the frail hemiplegic Pasteur come in supported by the arm of the President of France. You would see Lister at the summit of his fame humbly pay homage to and embrace this chemist, physicist, who had supplied the basic principles on which his surgical procedure were based. After the paeons of praise you would see this frail man (but probably the greatest scientist and the greatest benefactor of humanity that ever lived) sitting humbly, shaken by emotion, his head bowed in his hands. You would hear his son read Pasteur's reply ending with these words, more applicable even today than they were sixty-two years ago, "My invincible belief is that science and peace will triumph over ignorance and war, and that the future will belong to those who have done most for suffering humanity."

Our travel resources are running low but before we return to the realities of 1954 let us take one

last lingering look into the past through the classics and from them learn some lessons for the future. The mythology and the religions of the past are essential to the understanding of humanity. We will remember how frequently Osler quoted mythology to illustrate a point or embellish a phrase. From the classics we learn much of our own profession. Trite but true, is the command of Seneca, "If you are fond of books you will escape the dullness of life, you will neither sigh nor be evening disgusted with the occupations of the day — nor will you live dissatisfied with yourself, unprofitable to others."

In the dim mist of history we discern vague outlines of the form of that priestess physician of the Nile of Egypt. From her we can trace the evolutions of our profession through the ages; Aesculapius, Hippocrates, Galen, Pythagoras, Empedocles and Democritus—what are the lessons they teach to guide us in the future? The Spartans at the summit of their power asked in arrogance of the oracle at Delphi, "Can anything harm Sparta?" The answer, one way or another, was Luxury. Were the Athenians expressing the same thought in another way when they warned against complacency or conceit as the greatest danger to their future?

In our land there is a story that when the young Indian hunter made his first kill, a feast was prepared for him from which he was excluded. The reason, Self-pride made him lose his skill and endurance as a hunter. Cowper put it this way:

"Knowledge is proud that he has learned so much,
Wisdom is humble, there is so much to know."

So we in entering a new year of work in our profession should do so with courage but also with humility. This is not an occasion to boast of our learning and our successes, but a day to humbly re-dedicate ourselves to the service of humanity. What more inspiring message could we have than those words of Pasteur, "The future will belong to those who will have done most for suffering humanity."



Association Page

Reported by M. T. Macfarland, M.D.

Income Tax Information

Individuals whose income—(a) is derived from carrying on a business or profession (other than farming); (b) is derived from investments; or (c) is more than 25% derived from sources other than salary or wages, are required to pay their estimated tax by quarterly instalments during such year. Each payment must be sent in with Instalment Remittance Form T.7-B Individuals. Any balance of tax is payable with interest with the T.1 General return which is due to be filed on or before April 30 of the succeeding year.

The following timetable indicates the returns required.

A. Doctors Not receiving salaries amounting to $\frac{3}{4}$ of income:

Date Due	Forms to be Used
March 31	T.7-B Individuals
April 30	T.1 General
(Note: Only doctors deriving their full professional income from salaries may use Form T.1 Short).	
June 30	T.7-B Individuals
September 30	T.7-B Individuals
December 31	T.7-B Individuals

B. Doctors receiving salaries amounting to $\frac{3}{4}$ or more of income:

Date Due	Forms to be Used
April 30	T.1 General
(Note: Doctors deriving their full professional income from salaries may use Form T.1 Short).	

Whenever Status is changed* T.D.-1.

*With respect to new employer, marital status, dependents.

Doctors who pay salaries to their own employees are required to send in Form T.4 by the end of February each year.

DOMINION INCOME TAX RETURNS BY MEMBERS OF THE MEDICAL PROFESSION

As a matter of guidance to the medical profession and to bring about a greater uniformity in the data to be furnished to the Taxation Division of the Department of National Revenue in the annual Income Tax Returns to be filed, the following matters are set out:

Income

1. There should be maintained by the doctor an accurate record of income received, both as fees from his profession and by way of investment income. The record should be clear and capable of being readily checked against the return filed. It may be maintained on cards or in books kept for the purpose.

Expenses

2. Under the heading of expenses the following accounts should be maintained and records supported by vouchers kept available for checking purposes:

- (a) Medical, surgical and like supplies;
- (b) Office help, nurse, maid and bookkeeper; laundry and malpractice insurance premiums.

*(*If in a private home and the maid would clean the office, a portion of her wages could be counted as an expense.)*
(It is to be noted that the Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to the income).

- (c) Telephone expenses;
- (d) Assistants' fees: The names and addresses of the assistants to whom fees are paid should be furnished. This information is to be given each year on Income Tax form known as Form T.4, obtainable from your District Income Tax Office;
- (e) Rentals paid: The name and address of the owner (preferably) or agent of the rental premises should be furnished (see (i));
- (f) Postage and stationery;
- (g) Depreciation: A description of the treatment of depreciation may be found on page four of the Income Tax Return form T.1 General under the Part XI Method.

The method of computing depreciation for tax purposes is the same as that used last year and you should have no difficulty if you have a copy of last year's return available.

Simply carry forward the balance remaining in each class after deducting last year's allowance. Add to this figure the cost of any new equipment purchased and deduct the proceeds from any disposal of property in each class. The rate you wish to use not exceeding the maximum rate (see below) is applied to this new balance for each class to obtain the depreciation you may claim this year.

The schedule on page four of the Income Tax Return is reproduced below for your information. Column (6) does not apply to doctors, the other columns are self-explanatory.

The maximum rates for the classes of equipment most used by doctors follow:

Capital Item	Annual Maximum
Medical Equipment:	Class Depreciation
(a) Instruments Costing over \$50 Each and Medical Apparatus of Every Type	8 20%
(b) Instruments Under \$50 Each	12 100%
Office Furniture and Equipment	8 20%
Motor Car	10 30%

Building (Residence Used Both

as Dwelling and Office) 3 5%

**(If the building is frame or stucco on frame, it could be classified under No. 6 at 10% depreciation.)*

Instruments costing less than \$50.00 each belong in class 12 and have a maximum allowance rate of 100%. They should not be included in expenses but should be recorded as additions in columns 3 of the schedule.

Where a doctor practises from a house which he owns and resides in, the allowance may be claimed as above on a portion of the cost of the residence, excluding land. For example if the residence were a brick building costing \$12,000 and one-third of the space were used for the office, the doctor would use \$4,000 as the business portion of the cost and apply the building rate of 5% to determine the maximum depreciation allowable in the first year.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

(1) Class Number	(2) Undepreciat- ed Capital Cost at Be- ginning of 1951 (Col. 10 of 1950 return)	(3) Cost of Additions During 1951	(4) Proceeds from Dis- posals During 1951	(5) Undepreciat- ed Capital Cost before 1951 Allow- ance (Col. 2 plus 3, less 4)	(6) Net Deferr- ed Assets	(7) Amount on which 1951 Allowance is Calculated (Col. 5 less Col. 6)	(8) Rate %	(9) Capital Cost Allowance for 1951	(10) Undepreciat- ed Capital Cost in Less Defer- red Assets (Col. 9 less Col. 9)
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(h) Automobile expenses: (One Car). This account will include cost of license, oil, gasoline, grease, insurance, garage charges and repairs;

The capital cost allowance is restricted to the car used in professional practice and does not apply to cars for personal use.

Only that portion of the total automobile expense incurred in earning the income from the practice may be claimed as an expense and therefore the total expense must be reduced by the portion applicable to your personal use.

The mileage rate permitted in years prior to 1950 may no longer be used to estimate the automobile expenses.

(i) Proportional expenses of doctors practising from their residence:

(a) Owned by the doctor. Where a doctor practises from a house which he owns and as well resides in, a proportionate allowance of house expenses will be given for the study, laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, capital cost allowance, and interest on mortgage (name and address of mortgagee to be stated);

(b) Rented by the doctor. Only the rent and other expenses borne by the doctor such as heat and light will be apportioned inasmuch as the owner takes care of other expenses.

The above allowances will not exceed one-third of the total house expenses or rental unless it can be shown that a greater allowance should be made for professional purposes.

(j) Sundry expenses (not otherwise classified)—The expenses charged to this account should be capable of analyses and supported by records.

Claims for donations paid to charitable organizations will be allowed up to 10% of the gross income upon submission of receipts to your Income Tax Office. This is provided for in the Act.

The annual dues paid to governing bodies under which authority to practise is issued, and membership association fees, to be recorded on return, will be admitted as a charge. Initiation fees and the cost of attending post-graduate courses will not be allowed.

(k) Carrying charges: It is now possible under the Income Tax Act, Section 13, that if an investment loss is incurred, it is permissible to charge it against other income, including all carrying charges. That is, if the net result is a loss, that loss

can be applied to professional income. (This does not apply when purchasing a farm.)*

*Information supplied by the Income Tax Dept.

(l) Business tax will be allowed as an expense but Dominion, Provincial or Municipal income will not be allowed.

Convention Expenses

"Effective January 1, 1948, the reasonable expenses incurred by members of the medical profession in attending the following Medical Conventions will be admitted for Income Tax purposes against income from professional fees:

1. One Convention per year of the Canadian Medical Association.

2. One Convention per year of either a Provincial Medical Association or a Provincial Division of the Canadian Medical Association.

3. One Convention per year of a Medical Society or Association of Specialists in Canada or the United States of America.

The expenses to be allowed must be reasonable and must be properly substantiated; e.g., the payer should show (1) dates of the Convention, (2) the number of days present, with proof of claim supported by a certificate of attendance issued by the organization sponsoring the meetings; (3) the expenses incurred, segregating between (a) transportation expenses, (b) meals and (c) hotel expenses, for which vouchers should be obtained.

kept available for inspection.

None of the above expenses will be allowed against income received by way of salary since such deductions are expressly disallowed by statute."

Professional Men Under Salary Contract

The employees' annual contribution to an approved Pension Plan and alimony payments may be deducted from salary income.

Amendments to the Income Tax Act, introduced in 1951 and made retroactive to the beginning of the calendar year 1951, provide for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

The annual registration fee of the Provincial medical licensing authority would be allowable if paid by the doctor himself.

Certain conditions are attached to the allowance of the expenses and without trying to recite the exact provisions of the law the main points are:

(a) That the expenses must have been incurred in the performance of the duties of the office or employment.

(b) That the employee is required, under the contract of employment, to pay the expenses.

(c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the doctor's home and his office is not included.

Where the travelling expenses are allowable under these provisions, depreciation may be

claimed on the automobile used for this purpose but no other claim for depreciation may be made.

Income From a Partnership

Additional expenses incurred by a partner, but not charged to the partnership, may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged directly to the partnership and that they were necessarily laid out to earn the partnership income.

Northwestern District Medical Society

The first Clinical Day was held at Virden on Thursday, December 9th. Present were: Doctors D. E. Bradley, Reston; R. L. Cooke, Winnipeg; A. J. Elliott, Oak River; J. P. Gemmell, Winnipeg; W. K. Hames, Kenton; W. A. Gorrie, Virden; R. S. Harris, Virden; S. C. Henderson, Virden; J. E. Hudson, Hamiota; M. T. Macfarland, Winnipeg; H. Medovy, Winnipeg; J. R. Monteith, Virden; M. Scherz, Oak Lake; M. A. Sirrett, Erickson. The morning session was held at 11 o'clock at the Virden Hospital with the presentation and discussion of several cases. The afternoon session was held at the Virden Clinic with the presentation and discussion of cases, an illustrated talk by Dr. Robert L. Cooke on the Treatment of Cancer at Memorial Hospital. The evening session was held in the Virden Clinic. Dr. Medovy spoke on "Neo-Natal Mortality and Associated Paediatric Conditions."

Lunch and dinner were provided in the Legion Hall and the Executive Secretary lead a short discussion on Canadian Medical Protective Association.

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of Conjugated Estrogenic Substances

DOSAGE: 1 to 3 tablets daily.

WITH PHENOBARBITAL:

For Oral Estrogenic Therapy with Sedation
Each tablet contains 0.65 mgm. (6,000 I.U.)
of Conjugated Estrogenic Substances and
Phenobarbital 30 mgm. ($\frac{1}{2}$ gr.).

DOSAGE: 1 to 2 tablets daily



Bottles of 25 and 100 tablets

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MONTREAL CANADA

Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1954		1953		Total	
	Nov. 28 to Dec. 25, '54	Oct. 31 to Nov. 27, '54	Nov. 29 to Dec. 26, '53	Nov. 1 to Nov. 28, '53	Jan. 1 to Dec. 25, '54	Jan. 1 to Dec. 26, '53
Anterior Poliomyelitis	0	1	24	58	116	2371
Chickenpox	213	187	299	180	1876	1559
Diphtheria	0	0	0	0	0	4
Diarrhoea and Enteritis, under 1 year	5	7	13	14	150	211
Diphtheria Carriers	0	0	0	0	0	0
Dysentery—Amoebic	0	0	0	0	0	0
Dysentery—Bacillary	0	1	4	6	21	29
Dysentery—Bacillary Carrier	0	0	0	0	1	0
Erysipelas	0	0	1	1	25	29
Encephalitis	1	0	0	0	5	11
Influenza	3	2	13	13	84	256
Measles	110	90	102	157	1122	2597
Measles—German	1	2	3	6	17	49
Meningococcal Meningitis	4	0	3	2	24	36
Mumps	122	72	108	71	1209	1076
Ophthalmia Neonatorum	0	0	0	0	0	0
Puerperal Fever	0	0	0	0	1	1
Scarlet Fever	34	43	70	82	535	495
Septic Sore Throat	3	3	6	7	54	101
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	2	2
Trachoma	0	0	0	0	0	0
Tuberculosis	90	64	95	54	723	907
Typhoid Fever	0	0	0	0	3	0
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	0	0	0	0
Undulant Fever	0	0	0	1	6	13
Whooping Cough	103	70	24	16	364	218
Gonorrhoea	91	124	141	89	1361	1293
Syphilis	5	3	12	12	93	93
Jaundice Infectious	48	35	24	43	377	341
Tularemia	0	0	0	0	2	2

Four-Week Period November 28th to December 25th, 1954

DISEASES (White Cases Only)	*809,000 Manitoba	*861,000 Saskatchewan	*3,825,000 Ontario	*2,952,000 Minnesota
*Approximate population.				
Actinomycosis		1		
Anterior Poliomyelitis	6	8	12	
Chickenpox	213	165	1455	
Diarrhoea & Enteritis, under 1 year	5	40		
Diphtheria	1	1	4	
Diphtheria Carriers	1			3
Dysentery—Amoebic				3
Dysentery—Bacillary	9	7	8	
Encephalitis Epidemica	1		1	
Erysipelas	1	1	1	
Influenza	3	7	15	4
Jaundice, Infectious	48	70	87	159
Measles	110	5	845	761
German Measles	1	3	194	
Meningitis Meningococcus	4	1	4	3
Mumps	122	5	1023	
Ophthal. Neonat.				
Puerperal Fever				
Scarlet Fever	34	16	203	63
Septic Sore Throat	3	33		54
Smallpox				
Tetanus				
Trachoma				
Tuberculosis	90	36	73	107
Tularemia				
Typhoid Fever				
Typhoid Carriers		3	1	
Typh. Para. Typhoid				
Undulant Fever		3		
Whooping Cough	103	33	912	191
Gonorrhoea	91		*163	
Syphilis	5		*54	

*Only 3 weeks.

DEATHS FROM REPORTABLE DISEASES

December, 1954

Urban—Cancer, 66; Influenza, 1; Pneumonia, Lobar (490), 2; Pneumonia (other forms), 16; Tuberculosis, 3; Meningococcal infections, 1; Late effects of acute Poliomyelitis, 1; Diarrhoea and Enteritis, 1. Other deaths under 1 year, 15. Other deaths over 1 year, 227. Stillbirths, 7. Total, 249.

Rural—Cancer, 24; Pneumonia, Lobar (490), 7; Pneumonia other forms, 4; Tuberculosis, 3; Late effects of acute infectious encephalitis, 1; Diarrhoea and Enteritis, 1. Other deaths under 1 year, 14. Other deaths over 1 year, 177. Stillbirths, 9. Total, 200.

Indians—Pneumonia (other forms), 5. Other deaths under 1 year, 2. Other deaths over 1 year, 5. Stillbirths, 3. Total, 10.

Diphtheria—1954 is Manitoba's first year without a case or carrier of Diphtheria reported! There were a few false alarms but luckily they were false.

Ophthalmia Neonatorum—No cases reported — carry on with those prophylactic drops.

Typhoid Fever—No cases in 1953 — three in 1954 — not too bad but we dare not relax in prevention.

Chickenpox, Measles and Mumps—Still plentiful, and some **Infectious Jaundice**.

Whooping Cough—Temporarily on the increase but we expect that is due to the season. What about immunization?

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in effectiveness... .

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Nitrophen with Rauwolfia

MULTIPLE
HYPOTENSIVES
WITH
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EACH CAPSULE CONTAINS:

Dry Extract Rauwolfia -	1/6 gr. (10 mg.)
(4% total alkaloids, equivalent to approximately 30 mg. whole root.)	
Sodium Nitrite - - -	1 gr. (65 mg.)
Phenobarbital - - -	1/4 gr. (16 mg.)
Dry Extract Hyoscyamus	1/4 gr. (16 mg.)
Digitalis Pulverata	
B.P. - - - - -	1/4 gr. (16 mg.)
Nitroglycerin - - -	1/500 gr. (0.12 mg.)

INDICATIONS: Essential Hypertension.

DIRECTIONS: One or two capsules three times a day.

Bottles of 100 and 500

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College of Physicians and Surgeons of Manitoba

Council Meeting

Winnipeg, Manitoba,
October 16th, 1954.

The Sixty-ninth Annual Meeting of the Council of the College of Physicians and Surgeons of Manitoba was held Saturday, October 16th, 1954, at 9:00 a.m., in the Board Room of the Manitoba Medical Service Building, Winnipeg.

The President, Dr. T. W. Shaw, called the meeting to order.

1. Roll Call.

The following members were present: Doctors: T. W. Shaw, President; C. H. A. Walton, Vice-President; T. H. Williams, Treasurer; M. T. Macfarland, Registrar; R. E. Beamish, A. R. Birt, A. E. Childe, C. E. Corrigan, R. E. Dicks, F. P. Doyle, G. H. Hamlin, Ed. Johnson, P. Johnson, A. L. Paine, F. J. E. Purdie, F. K. Purdie, C. B. Stewart, and S. S. Toni.

The President presented the following list of names of members of the College deceased during the year:

Doctors: Jared Norman Andrew, Minnedosa, Manitoba; George Edwin Bruce, Swan River, Manitoba; Francis Richard Chown, Winnipeg, Manitoba; William Edwin Raymond Coad, Winnipeg, Manitoba; John Cruickshank Hossack, Winnipeg, Manitoba; Duncan John Mason, Kenora, Ontario; David Williamson Morison, Winnipeg, Man.; John McFaul McEachern, Winnipeg, Manitoba; Philip Peter Nimilowich, Winnipeg, Manitoba; Horatio Clarence Norquay, Selkirk, Manitoba; Isaac Pearlman, Winnipeg, Manitoba; Peter Cecil Robertson, Brandon, Manitoba; Malcolm Lewis Sibbald, Chelsea, Michigan; Herbert William Wadge, Winnipeg, Manitoba; Earl Dickson Winchell, Brandon, Manitoba.

Results of Election:

Report of Returning Officer and Scrutineers:

As Returning Officer of the 1954 elections, I beg to report that the following member was appointed to the Council by acclamation:

Electoral District No. 2—Dr. Edward Johnson, Selkirk, Manitoba.

The results of the election in the remaining districts are as follows:

Electoral District No. 1—Dr. F. P. Doyle, Ste. Anne, Manitoba.

Electoral District No. 3—Dr. G. H. Hamlin, Portage la Prairie, Manitoba.

Electoral District No. 4—Dr. S. S. Toni, Altona, Manitoba.

Electoral District No. 5—Dr. A. L. Paine, Ninette, Manitoba.

Electoral District No. 6—Dr. F. J. E. Purdie, Brandon, Manitoba.

Electoral District No. 7—Dr. F. K. Purdie, Griswold, Manitoba.

Electoral District No. 8—Dr. T. W. Shaw, Russell, Manitoba.

Electoral District No. 9—Dr. R. E. Dicks, Dauphin, Manitoba.

Electoral District No. 10—Dr. P. Johnson, Flin Flon, Manitoba.

Electoral District No. 11—Dr. C. B. Stewart, Winnipeg Clinic; Dr. C. E. Corrigan, 428 Medical Arts Bldg.; Dr. R. E. Beamish, 128 Medical Arts Bldg.; Dr. A. E. Childe, 101 Medical Arts Bldg.; Dr. J. M. Kilgour, Winnipeg Clinic; Dr. M. R. MacCharles, 128 Medical Arts Bldg.

I herein certify that this is a correct report of the details furnished by the scrutineers.

Respectfully submitted,
M. T. Macfarland, M.D., C.M.,
Returning Officer.

Drs. E. F. E. Black and G. P. Fahrni, Scrutineers, October 1, 1954.

The Registrar presented a communication from the Secretary, Medical Faculty, University of Manitoba, advising that Dr. C. H. A. Walton had been elected to represent the Faculty on the Council for a four-year period, and Dr. A. R. Birt for a two-year period, to co-incide with the term of the new Council.

Election Statistics:

The following statistics were prepared in reference to the 1954 elections:

1954 Election Statistics

Electoral Districts	No. of Physicians	No. Eligible	No. Nom. Papers Returned	No. Nominated	No. Nominations Accepted	No. Voting Papers Returned	Spoiled Ballots
1	82	80	3	3	3	35	1
2	22	21	4	4	1	Accl.	1
3	25	24	6	3	3	16	12
4	19	19	4	3	3	12	1
5	19	19	5	3	3	15	—
6	31	30	5	4	2	17	—
7	23	23	11	2	2	21	—
8	27	26	5	3	3	20	1
9	23	22	6	4	2	17	—
10	19	19	5	3	2	16	—
11	553	538	44	84	70	283	10

Motion: "THAT the report of the Returning Officer and Scrutineers be accepted." Carried.

Motion: "THAT the Nomination and Voting Papers of the 1954 election of the Council of the College of Physicians and Surgeons of Manitoba be destroyed." Carried.

Payments of Scrutineers:

It was pointed out that the scrutineers had received \$12.50 each for previous elections, but this election was unusual since it involved new electoral districts and a whole council, and in the future would involve one-half of the council only.

Motion: "THAT the scrutineers for the 1954 elections be paid the fee of Twenty-five Dollars (\$25.00) each for their services." Carried.

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**Lot to Decide Four or Two Year Terms
For Members of Council.**

The Registrar presented a communication from the College solicitor enclosing the following resolution to be adopted by Council which would meet the requirements of Section 25 of the Medical Act.

WHEREAS Section 25 (1) and (2) of The Medical Act provides as follows:

25. (1) The first election of members of the council after the coming into force of this Act, shall be held not later than one year following the coming into force of this Act, on a date to be fixed by the executive committee.

(2) Notwithstanding any provision of The Medical Act, one-half of the members elected to the council at the election mentioned in subsection (1) shall hold office for the term of four years, and the remaining one-half for two years; and it shall be determined by lot, at the first council meeting immediately following the election, who shall hold office for four years, and who for two years.

NOW THEREFORE BE IT RESOLVED AND IT IS HEREBY RESOLVED THAT for the purpose of determining the terms of office of the members elected to Council at the 1954 election the names of the members shall be placed in a suitable container and the Registrar shall in the presence of the council withdraw from the container one name at a time until one-half of the names have been withdrawn. Each member whose name has been so withdrawn shall hold office for a term of four years and the remainder shall hold office for terms of two years each.

Motion: "THAT the solicitor's resolution for determining the terms of office of the Council members be adopted, and that two draws be made, one for electoral districts 1-10, and one for electoral district 11." Carried.

The following is the result of the draw:

Four Years:

Electoral District No. 2—Dr. Ed. Johnson.
Electoral District No. 3—Dr. G. H. Hamlin.
Electoral District No. 6—Dr. F. J. E. Purdie.
Electoral District No. 7—Dr. F. K. Purdie.
Electoral District No. 9—Dr. R. E. Dicks.
Electoral District No. 11—Dr. R. E. Beamish, Dr. A. E. Childe, Dr. C. E. Corrigan.

Faculty of Medicine—Dr. C. H. A. Walton.

Two Years:

Electoral District No. 1—Dr. F. P. Doyle.
Electoral District No. 4—Dr. S. S. Toni.
Electoral District No. 5—Dr. A. L. Paine.
Electoral District No. 8—Dr. T. W. Shaw.
Electoral District No. 10—Dr. P. Johnson
Electoral District No. 11—Dr. J. M. Kilgour, Dr. M. R. MacCharles, Dr. C. B. Stewart.

Faculty of Medicine—Dr. A. R. Birt.

2. Reading of Minutes and their approval.

The Registrar stated that the minutes of the May Council meeting had been mimeographed and circulated to the members of Council.

Motion: "THAT the minutes of the May Council Meeting be taken as read." Carried.

**3. Reports of Officers and their consideration.
A. Registrar's Report.**

Mr. Chairman and Gentlemen:

I should like, at the outset, to extend a hearty welcome to members of the 69th Annual Meeting of Council. Had the system of holding the meeting on the third Wednesday of October prevailed, instead of meeting in close conjunction with the Annual Convention of the Manitoba Medical Association, we should find ourselves, this year, competing with the Association of Canadian Medical Colleges, the Royal College of Physicians and Surgeons of Canada and the Medical Council of Canada examinations. It is however, the first meeting of Council convened under the 1953 amendments to the Medical Act and the 1954 revision of the By-laws, a copy of each has been placed in your hands. In passing, I would draw your attention to the Crest which was made from a drawing of the official College seal.

Meetings:

During the College year, October 1, 1953 to September 30, 1954, there have been held:

1 special meeting of Council on May 19th, the first occasion on which we had accepted the generous offer of the Board of Trustees, Manitoba Medical Service, to utilize this commodious Board Room.

2 meetings of the Executive Committee, 1 prior to and 1 subsequent to the May meeting of Council.

11 meetings of the Registration Committee, 7 prior to and 4 subsequent to the May meeting of Council. This continues to be the most active committee of the College as will be shown by the figures that follow.

1 meeting of the Specialist Committee on January 7, 1954, in accordance with the By-law. Applications since January 1, 1954 have been dealt with by Council and some representations from the Executive Committee will be considered today. Agreement was reached between the Manitoba Medical Association and the Manitoba Medical Service that the Specialist Register maintained by this College would be accepted by M.M.S. for purposes of designation, and the intention of the By-law is that the acceptable standard shall be that of the Royal College of Physicians and Surgeons of Canada.

No meeting of the Education Committee.

1 meeting of the Discipline Committee, prior to the May meeting of Council.

1 meeting of the Committee on Taxing medical fees, prior to the May meeting of Council.

The fact that there have been few meetings of these Committees does not indicate that no problems have arisen in these fields. The representatives to the Medical Council of Canada will report on suggested examination changes, and your Registrar has only to recall frequent inquiries and

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SUPPLIED: In bottles of 60 and 300 capsules; in 30 cc. bottles with calibrated dropper. One bottle of capsules or 2 bottles of oral drops usually suffice for a course of therapy.

References: 1. Greenblatt, R. B., and Brown, N. H.: Am. J. Obst. & Gyn. 63:1361, June, 1952.
2. Ausman, D.C.: Wisconsin M. J. 53:322, 1954.
3. Woodhill, R. B.: Obst. & Gyn. 3:201, 1954.
4. Ivory, H.S.: J. Med. Soc. N. J. (In press).

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complaints concerning professional services or the fees accounts submitted, to remind members the paucity of meetings is no certain indication that all is serene. As a provincial representative of the Canadian Medical Protective Association, your Registrar notices that increased claims have resulted in a decision taken in June to double the annual fee from January 1st next. Mimeographed minutes of all meetings have been distributed to each member of Council, additional copies are available now, and individual items may be discussed as the report of each Committee is presented.

Student Registration:

52 applications were accepted during the year, including students from provinces other than Manitoba who have entered medical studies at our own University, and 1 was referred to Ontario. In 1950 the suggestion was made that this College might have some contact with the undergraduate student and for the past two years your Registrar has been invited under the heading of "Therapeutics" to discuss Medical Licensure and Methods of Securing a Practice with students of the fourth year.

Enabling Certificates:

In addition to 80 issued to University of Manitoba applicants or Manitoba registrants 23 were granted and 22 were deferred, in which all documents were available to the Registration Committee. In addition to graduates from the University of Manitoba, applications were from other schools in the United States (2), Europe (12), Asia (7), United Kingdom (1), and Australia (1).

Certificates of Licence (Temporary).

Applicants are expected to have qualifications for full registration, but some variations have been made. 43 Certificates were granted — University of Manitoba (24), other Canadian schools (8), United Kingdom (8), Europe (2), and Asia (1). 28 were issued to residents of Greater Winnipeg, while 15 were outside that area. The majority of certificates (26) were issued to hospital internes, the Winnipeg General Hospital requires all house staff members to be licensed and progress has been made by other metropolitan hospitals. 6 certificates were issued to members of the Armed Forces, and in this respect it is a pleasure to acknowledge the co-operation of the Command Medical Officer for Army with whom a system of issuing and cancelling temporary certificates has been worked out. There is no comparable R.C.A.F. officer and the same co-operation is not secured. 5 certificates were issued to employees in provincial government service and 6 certificates for those serving as Locum Tenens for another physician. Of certificates issued during the year 11 were cancelled and 3 converted to permanent registration. In addition, 3 persons who previously held Certificates of Licence (temporary) accepted permanent registration. Of a total of 176 Certificates of Licence

issued, the number in effect at September 30, 1954, was 46.

Certificates of Registration:

99 Certificates were granted. At the time of registration 40 were graduates of the University of Manitoba, 11 of other Canadian Universities, 2 of U.S.A. Universities, 32 from the United Kingdom, 6 from Europe, 6 from Asia, and 2 from New Zealand. Of these 70 settled within, and 18 outside, the Greater Winnipeg area, while 11 have not yet practised in the Province. At the end of the current year, only 1 of the registrants had moved from the province. Thus the total addition to the professional census during the past year was 142. The record registration of 141 in 1946 stands, since at that date there was no temporary registration.

Number of Licensed Doctors in Manitoba 1944-1953:

Year	Outside		
	Winnipeg	Winnipeg	Total
1944	318	179	497
1945	349	177	526
1946	491	223	714
1947	503	226	729
1948	511	236	747
1949	528	233	761
1950	546	229	775
1951	564	235	799
1952	573	251	824
1953	604	260	864

The figures for 1954 are as follows:

	Perm.	Temp.	Total
Greater Winnipeg	627	32	659
Outside Winnipeg	239	14	253
—	—	—	—

A new record high

total of _____ 866 46 912

The 1944 figure of 497 exceeds by two the lowest figures reached in 1943 when so many physicians were engaged in war service duties.

Changes in the Register:

During the year two members of the College who had married made application to the Executive Committee or Council to practise under the newly-acquired name.

We are reminded that there have been losses during the year, the names of deceased members have been read, and include from Greater Winnipeg 8, the balance of Manitoba 5, and outside the Province of Manitoba 2, making a total of 15.

Additions to the Register and changes in address numbered approximately 363, sixty physicians inquired about locations, 130 inquiries were received from graduates of foreign medical schools, and the approximate number of inquiries received from all applicants for Enabling Certificates, Certificates of Licence (temporary), and Certificates of Registration, was 475.

What types of inquiry do we have? — perhaps best illustrated by a sample of letters received during the past week to which replies have not yet been sent: (Portions of five letters read to Council.)

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Wilfred S. Peters Brandon

Six reside in Winnipeg and 1 resides in Manitoba.

Of the 60 past Presidents of the College, 19 known to be living.

Cash Receipts:

Annual Fees:			
Registrations:	74 x	\$100.00	\$7,400.00
	2 x	95.00	190.00
	6 x	90.00	540.00
	16 x	80.00	1,280.00
	1 x	70.00	70.00
Temp. Licences:	20 x	10.00	\$ 200.00
	19 x	5.00	95.00
	4 x		
	1 x	5.00*	5.00
M.C.C. Certificates:	23 x	25.00	\$ 575.00
	80 x	5.00	400.00

*Balance.

G.M.C. Certificates:	7 x	5.00
Student Registration:	52 x	1.00
Specialist Registration:	73 x	5.00
Documentation Fees:	79 x	25.00
Sale of Lists of Physicians Addresses		
Sale of Lists of Address Changes		
Sale of Medical Registers		
Credentials Committee—U. of Manitoba	35 x	\$5.00
Miscellaneous:		

Foreign Exchange
Postage

3.55

9.24

Suspense Account
Refunded from Suspense Account

Arrears of Annual Fees — 1953 — 2; 1954 — 16. (As at Sept. 1954.)

I should like to express my appreciation of many courtesies extended to me by the retiring present members of Council, and to comment on office assistants, Mrs. J. Danks and Miss L. Zawadzki.

Respectfully submitted,

M. T. Macfarland, M.D.,
Registrar.

Motion: "THAT the Registrar's Report be adopted."

Council members were advised to read report of the Registrar carefully since it contains a resume of the work done by the College during the year.

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Book Reviews

Cancer — Race and Geography

**Etiological, Environmental, Ethnological,
Epidemiological and Statistical Aspects**

Author—Paul E. Steiner, Ph.D., M.D., Professor of Pathology, the University of Chicago, Chicago, Ill.

Publisher—The Williams and Wilkins Company, Baltimore, 1954.

This book is a study of cancer in a reliable large necropsy population. It deals primarily with the twenty most common lethal types of tumour seen in Caucasoids, Negroids, and Mongoloids in necropsies at the Los Angeles County Hospital, as well as these racial groups in other parts of the world. It is an attempt to shed new light on the etiology of human cancer by statistical methods. The author is able to show that racial differences do exist in some forms of cancer, but not in others. He compares his data for cancer in Migrants and the available data for cancer in their corresponding relatives in their countries of origin. Factors of environment and heredity are thus compared. He concludes that the more "racial" cancers are studied, the greater is the tendency for them, as such, to vanish. This (he states) is very hopeful for the conquest of cancer. There is a real possibility that more and more extrinsic factors will be identified and brought under control. His information suggests that racial, geographical, and hereditary factors in the incidence and etiology of

cancer may be environmental and not genetic. The book is a thorough and detailed study of a large collection of data, and is most thought-provoking.

Robert L. Cooke, M.D., D.A.B.S., F.R.C.S. (Eng.), F.R.C.S. (Can.).

Handbook of Medical Treatment

The popularity of this book among medical students and practitioners is attested by the fact that only one year separates the fourth edition from the third. It owes its enviable record of four editions in five years (the book was first published in 1949) to its practical usefulness. Invaluable in emergencies, when a quick glance at the right page may save the day, it is also useful during the more leisurely office hours, when therapeutic information of lesser urgency is required, for, despite its small pocket size, it contains a wealth of information.

In the fourth edition there has been a revision and an extension of the text. New authors have been added to the already impressive list, and recent advances of the past year have been incorporated.

A very handy handbook to have on hand.

Handbook of Medical Treatment — Fourth Edition. Edited by Milton J. Chatton, A.B., M.D.; Sheldon Margen, M.A., M.D.; Henry D. Brainerd, A.B., M.D.

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